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THE GEOGRAPHICAL
BASIS OF EUROPEAN
HISTORY

BY

JOHN KIRTLAND WRIGHT

AMERICAN GEOGRAPHICAL SOCIETY



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CONTENTS

	PAGE
INTRODUCTION	3
RELATION BETWEEN GEOGRAPHY AND HISTORY	3
LIMITS AND SUBDIVISIONS OF THE EUROPEAN AREA	4
PHYSIOGRAPHY AND CLIMATE OF THE EUROPEAN AREA	8
I. THE AFRICO-ARABIAN ARID REGION .	12
GENERAL CHARACTER	12
THE THREE GREAT DEPRESSIONS	13
THE THREE GREAT DEPRESSIONS AS PASSAGEWAYS THROUGH THE DESERT BARRIER	15
COMMERCIAL AND STRATEGIC IMPORTANCE OF THE DEPRESSIONS	17
CONTRIBUTIONS TO EUROPEAN CIVILIZATION IN ANTIQUITY OF THE RIVER VALLEY CIVILIZATIONS OF THE NEAR EAST . . .	19
CONTRIBUTIONS OF THE PEOPLES OF THE FRINGES OF THE CENTRAL DEPRESSION TO EUROPEAN CIVILIZATION	20
THE RISE OF ISLAM	21
RELATIONS BETWEEN THE MOHAMMEDAN WORLD AND EUROPE	23
II. THE ALPINE-MEDITERRANEAN REGION	26
PHYSIOGRAPHY AND CLIMATE	26
VEGETATION AND AGRICULTURE	28
THE GROWTH OF CITIES	29
DEFENSIBILITY OF SITE AS A FACTOR IN URBAN GROWTH	31

GEOGRAPHICAL BASIS

	PAGE
MEDITERRANEAN COMMERCE AS A FACTOR IN	
URBAN GROWTH	33
MEDITERRANEAN CITY STATES	34
THE GEOGRAPHY OF MEDITERRANEAN PORTS	37
CITIES OF EXTRAORDINARY INFLUENCE:	
ROME AND CONSTANTINOPLE	43
EXCEPTIONAL PARTS OF THE ALPINE-MEDI-	
TERRANEAN REGION	50
THE HIGHER MOUNTAINS OF THE ALPINE-	
MEDITERRANEAN REGION	53
 III. NORTHERN EUROPE	58
PHYSIOGRAPHY AND CLIMATE OF NORTH-	
EASTERN EUROPE	58
FOREST AND STEPPE IN RUSSIAN HISTORY .	59
WESTWARD EXPANSION OF RUSSIA . . .	61
THE RIVERS OF RUSSIA AND RUSSIAN UNITY	62
PHYSIOGRAPHY OF NORTHWESTERN EUROPE	64
CLIMATE AND AGRICULTURE OF NORTH-	
WESTERN EUROPE	66
LANGUAGES OF NORTHWESTERN EUROPE .	69
NATIONAL AND POLITICAL FRONTIERS . .	72
GEOGRAPHY OF THE INDUSTRIAL REVOLUTION	74
NEW PROBLEMS CREATED BY THE INDUS-	
TRIAL REVOLUTION	76
COAL, AND URBAN INDUSTRIAL DEVELOP-	
MENT	78
NATURAL LINES OF COMMUNICATION, COM-	
MERCE, AND THE INDUSTRIAL REVOLUTION	81
GREAT CAPITALS	86
CONCLUSION	94
 BIBLIOGRAPHICAL NOTE	97
 INDEX	103

MAPS AND DIAGRAM

FIGURE	PAGE
1 The European Area in relation to other parts of the land hemisphere	6
2 The Mohammedan World	23
3 Linguistic regions of Europe	68
4 Populations of three largest cities in Great Britain, in France, and in Germany	90

PLATE	
I Physiographic map of Europe . . .	<i>at end of text</i>

THE GEOGRAPHICAL BASIS OF
EUROPEAN HISTORY

INTRODUCTION

RELATION BETWEEN GEOGRAPHY AND HISTORY

Geography deals with the distribution and inter-relation of the phenomena of the earth's surface. Among these phenomena are the works and institutions of man: the forests that he clears or plants or improves; the crops that he harvests; the roads and cities that he builds as part of the mechanisms of transport and industry; the religions, languages, nations, and states that express the racial or regional individuality of groups of people and give distinction to their culture. Geography shows us the relations in space of man's works and institutions both to one another and to the natural environment of land, water, and air.

History aims to record and explain how these same works and institutions have grown or decayed during the past. It shows us the progressive stages by which the forests have been cleared and the farming lands opened up to cultivation, the steps by which the mechanisms of trade and industry have been perfected or have fallen into decline, the processes by which religions and languages, nations and states have come into being, risen in power, or given place to new institutions themselves distinctive of the culture of later times.

Thus, since both deal in large part with the same subjects, no hard and fast line may be drawn between geography and history. The geographer is obliged to make excursions into the realm of history if he would

gain more than a superficial view of human works and institutions, the products of centuries of growth. Similarly the historian must take into consideration the geographical conditions that surround historical movements and events. Geography alone will give him an explanation of many historical facts otherwise incomprehensible or, indeed, without significance. The gradual building-up of custom, tradition, and experience, as well as their transmission from generation to generation has been ceaselessly conditioned and modified by geographical circumstances.

It is especially important that the beginner in European history learn something of the geography of Europe at the very outset of his work. No other part of the earth's surface presents within an equal area a more complex pattern of races, languages, and religions, or a more thorough mingling of social, economic, and political systems. How these are distributed and how far their distribution conforms to the different types of relief, climate, vegetation-cover, and soil, geography alone will show. Indeed, without the background that geography gives us, historical study is confused and meaningless.

LIMITS AND SUBDIVISIONS OF THE EUROPEAN AREA

The term "Europe" is nothing more than a conventional name applied to the westernmost projection of Asia. Geographers have never agreed where Asia begins and Europe ends, nor does it really matter. Europe has inherited and borrowed so much from the civilizations and religions of the Near East that we may conceive of an area of Occidental culture overlapping Asia and Africa and within which there has been a large measure of historical continuity from the

remote past. On the south and southeast this area merges into a broad belt of deserts and arid lands which separates it from the equatorial forests of Africa and from the areas of Far Eastern culture in China and India; on the northeast it faces the desolate swamps and woods of Siberia, and on the north and west the waters of the Arctic and Atlantic oceans. The ocean waves and Siberian wilds, however, in modern times have been less effective than the desert zones as barriers to the spread of Occidental civilization into other parts of the world. Modern history may be said to open with the beginnings of the expansion of European peoples across the Atlantic into America and eastward from Russia to the Pacific, carrying with them European ways of life into new environments. Interesting as it would be to follow this spread of Occidental culture into the New Worlds of America and northern Asia and to study the gradual but profound transformations that it is there undergoing, we must here confine our attention to the area of Occidental culture in the Old World. This we shall call the *European Area*, conceiving it to include a strip of North Africa and a portion of southwestern Asia, as shown on Fig. 1.

On the basis of the relief features of the earth's surface and their underlying rock structure we may split our European Area into four main physiographic regions. These we shall call: (1) the *Africo-Arabian Arid Region*, (2) the *Alpine-Mediterranean Region*, (3) *Northeastern Europe*, and (4) *Northwestern Europe* (Fig. 1). The climates of the European Area are likewise of four main types: (1) a desert type, which prevails over the whole of the Africo-Arabian Arid Region; (2) a Mediterranean type, over most of the Alpine-Mediterranean Region; (3) a continental

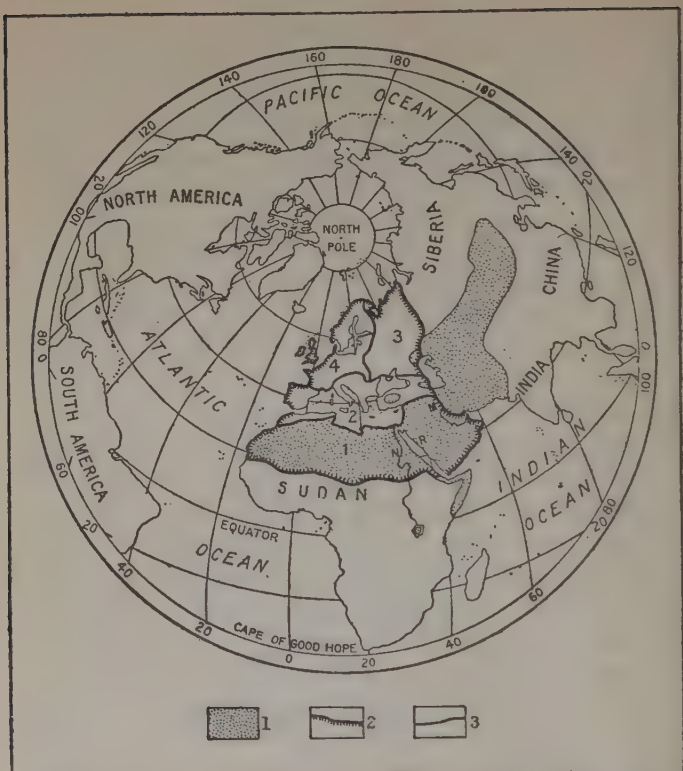


FIG. 1

The European Area in relation to other parts of the land hemisphere. The symbols indicated in the key below the map represent: 1—the arid belt separating the Mediterranean and Europe from central and southern Africa and from the densely populated areas of India and China; 2—the outer boundary of the European Area; 3—boundaries of the four main subdivisions of the European Area (indicated by figures on the map: 1—the Africo-Arabian Arid Region; 2—the Alpine-Mediterranean Region; 3—Northeastern Europe; 4—Northwestern Europe). The three great depressions traversing the arid belt are shown by letters: N—the Nile valley; R—the Red Sea rift; M—Mesopotamian-Persian Gulf depression.

type, over all of Northeastern Europe and the northeastern portion of the Alpine-Mediterranean Region; and (4) an oceanic type over all of Northwestern Europe.

Just as physiography and climate are broadly uniform within each of the four major physiographic regions, so each is characterized by a certain degree of human homogeneity. The Africo-Arabian Region is predominantly pastoral, although agriculture is practiced in isolated oases and river-bottom lands separated from each other by steppes and deserts. Northeastern Europe is fundamentally agricultural, a land of wide spaces, small villages, and few great cities; cultural influences radiating from Constantinople and spreading westward from Asia have played an important part here in molding the basic Slavic civilization. Northwestern Europe, essentially agricultural in the Middle Ages, has become in modern times the greatest commercial and industrial region of the world, a land of crowded populations, huge cities, powerful nationalistic states. Its culture is an amalgam of Latin, Teutonic, and Celtic elements. In those parts of the Alpine-Mediterranean region where the Mediterranean type of climate prevails cities have clustered since the dawn of history, but owing to its lack of coal, as well as to other causes, this region has not kept pace with Northwestern Europe in the industrial growth of modern times. The Roman Empire stamped the impress of Latin civilization throughout the western half of the Mediterranean basin, but the civilization of the eastern half owes more to the Greeks and peoples of the Near East.

The boundaries between these various regions are shown on Fig. 1. Although they appear so on this map, they should not be regarded as clean-cut lines.

While physiographic limits may be drawn with fair precision, climatic areas always merge imperceptibly into one another, and cultural boundaries are often as vague. Thus, the northeastern part of the Alpine-Mediterranean Region, where climate of the continental type prevails, is a zone of transition; cultural elements typical of the Mediterranean, of Northwestern Europe, and of Northeastern Europe are here intermingled. Although we have placed the North African provinces of Tunis, Algeria, and Morocco in the Alpine-Mediterranean Region on the basis of physiography, climate, and agriculture, in religion and civilization they are one with the great Africo-Arabian Arid Region to the south.

We shall, however, take the four major physiographic regions as the basis for our subsequent discussion. In regard to each we shall have something to say of land surface and climate. We shall also attempt to explain certain historical developments within each and to show how these developments have been related to the natural environment. First, however, it is necessary to outline very broadly the main facts of the physiography and climate of the European Area as a whole.

PHYSIOGRAPHY AND CLIMATE OF THE EUROPEAN AREA

Africa and Arabia consist of mighty table-lands that have stood generally above sea-level since an extremely early geological era. The northern portion of these table-lands, with three great depressions that cut through them from north to south, forms the Africo-Arabian Arid Region.

In what is now Northwestern Europe and the north Atlantic Ocean there once lay a continent, the remains

of which are found to-day in the ancient rocks of Scotland, Scandinavia, and Finland. Between this continent and the table-lands of Africa and Arabia spread shallow seas, on the floors of which sediments washed down by rivers from the land masses to north and south were deposited as horizontal layers that became gradually solidified into rock. Throughout the whole of Northeastern Europe these sedimentary beds have lain almost undisturbed. Their surface, slightly uplifted above sea level, now forms the plains of Russia and Poland. Farther west, however, in Northwestern Europe and in the Alpine-Mediterranean Region, the earth's crust over large areas has been subjected to powerful disturbances—foldings and breakings—that have given rise to more diversified landscapes. The plains, though widespread, are here interspersed with tracts of upland and with mountains.

These disturbances have occurred at different geological epochs. The mountains raised by foldings and fracturings that occurred in all but the most recent period of crustal movements have been worn down by weathering and erosion to mere stumps. The generally level surfaces to which they were thus reduced were subsequently broken into blocks often hundreds of square miles in area. Some of these blocks subsided beneath the sea and were covered with sedimentary beds. Others were uplifted, and now constitute certain isolated upland tracts which we shall call the *massives* of our European Area. Northwestern Europe is a region of old massives, plains and lowlands, and shallow seas.

Although there are several ancient massives within the Alpine-Mediterranean Region, its mightiest relief features owe their origin to a series of earth movements that scarcely affected the regions to the north

and south. These mountain-building movements, which began long after the movements that had produced the massives, created the Alps, Pyrenees, Caucasus, and other lofty ranges of southern Europe, northern Africa, and southwestern Asia. These mountains are high and impressive because they are relatively young. Although streams and glaciers are at work, constantly wearing them down, sufficient time has not elapsed for their reduction to the level of the massives.

Associated with and following after the disturbances that raised the Alps and other ranges of southern Europe were forces which brought about the sinking of immense blocks of the earth's surface. This accounts for the deep basins occupied by the Mediterranean Sea and its branches, and for some of the lowlands of the Alpine-Mediterranean Region.

Climatically our European Area falls within three of the earth's principal wind zones: that of the Trade Winds, that of the Prevailing Westerlies, and that of the belt of calms lying between (the Horse Latitudes of sailors). The Trade Wind Zone has clear, dry weather, and, particularly over the ocean, fairly steady north and northeast winds. Our Africo-Arabian Arid Region lies within the Trade Wind Zone and the belt of calms. The Zone of the Prevailing Westerlies on the whole is one of variable winds, clear weather and storm following each other in an endless march from west to east. Some of the storms, especially in winter, are of great violence, but others bring merely a few days of cloudy sky, with or without rain or snow. Northwestern and Northeastern Europe both lie within the Zone of the Prevailing Westerlies.

As the inclination of the earth's axis makes the sun seem to swing to the north and retire to the south each year, the boundaries between the wind zones follow,

although their movements lag a month or more behind those of the astronomic seasons. There are wide belts across which these boundaries migrate to and fro and which in the northern hemisphere have weather belonging to one zone in the winter and to the neighboring zone on the south in the summer. This is true of a large part of our Alpine-Mediterranean Zone. Here, in summer the weather is broadly characteristic of the Trade Wind Zone and belt of calms, in winter of the Prevailing Westerlies.

The presence of the Mediterranean and especially of the Atlantic Ocean also influences the climates of the European Area. Water absorbs heat and likewise cools much more slowly than land. As a result, large bodies of water have a moderating effect upon the air in their vicinity, making it warmer in winter and at night, cooler in summer and by day, than over regions remote from the sea or great lakes. Furthermore, the North Atlantic Drift, or continuation of the Gulf Stream, carries relatively warmer water from the tropics far north along the Atlantic coasts of Europe, so that marine ice does not form even along the Arctic coast of the Scandinavian peninsula. The broad eastward drift of the atmosphere and the succession of storms passing over Europe brings the mild breath of the Atlantic into the heart of the continent. As a result, the winters are not severe. But the high latitude combined with oceanic influences renders the summers cool as compared with those of the central and eastern United States. Northwestern Europe, thus, has a moist, equable, *oceanic* climate, whereas Northeastern Europe, beyond the reach of the oceanic influences, has a typically *continental* climate with fierce summer heats and bitter winters.

CHAPTER I

THE AFRICO-ARABIAN ARID REGION

GENERAL CHARACTER

The scenery of the Africo-Arabian Arid Region is not unlike that of the southwestern United States, but is even more barren. Open rocky and stony plateaus spread to wide horizons; sand occupies relatively minor areas if compared with the total immensity of the desert, although some of the dune tracts of the Sahara and Arabia are hundreds of miles across. Large sections of the region are very little known and there remain even to-day parts of the desert that have never been seen by the eyes of civilized man. Great are the extremes of temperature. In the daytime the sun beats down blindingly; the surface of the sand or rocks becomes too hot to touch. Summer nights are cool, winter nights often frosty and clear, with brilliant stars. The Trade Winds, as they blow toward the equator over these wastes, become warmer and absorb ever more and more moisture. Hence they are drying winds. When rain comes it often falls as cloudbursts, lasting for a few minutes, or hours, at most, and followed by rapidly clearing skies. The limited precipitation and, more especially, the intense evaporation, render the bushy and grassy vegetation sparse and in some places altogether lacking. In isolated basins, however, or along the valleys where water is found not far beneath the surface, wells are dug and palms and a few crops may be grown. These spots are the oases of

the desert, some of them closely peopled by sedentary agricultural folk. But beyond the shady fringes of the oases, the open desert is either wholly uninhabitable or at best furnishes only scanty grazing grounds for herds of camels, sheep, or goats, which must be kept ever on the move in search of pasturage and of drink in the few isolated water holes and wells. The nomadic herdsmen of the desert lead a roving, untamed life, tribe constantly warring with tribe. Their struggle for existence is often desperate in the face of droughts that burn the grass and shrubs and dry up the wells, and of swarms of locusts that devour every green shoot and poison the water with their myriad decaying bodies.

This nomadic pastoral life has persisted little changed since remote antiquity. The conservatism of the desert, a conservatism enforced by a remorselessly unproductive environment, characterizes the culture of the greater part of the Africo-Arabian Arid Region. No neighboring states have ever thoroughly mastered the wanderers of the wilderness spaces. Neither Assyria, nor Persia, nor Rome, neither the Turk nor the imperialism of modern Europe has altogether subdued the desert folk or imposed upon them a different mode of living and a new outlook on life. Inner Arabia is now one of the few regions beyond the continent of Europe almost entirely unsubjected to European interference; Italy holds but the coastal fringe of the eastern Sahara, and France controls the boundless wastes of the western Sahara by tenuous military garrisons only.

THE THREE GREAT DEPRESSIONS

The Africo-Arabian Arid Region is traversed from north to south by three depressions. The eastern-

most of these is the broad valley of Mesopotamia (M, Fig. 1), continued southward below the shallow waters of the Persian Gulf. Into this lowland two mighty rivers, Tigris and Euphrates, carry an immense load of silt from the mountains to the north, building out a fertile plain. From the Euphrates and from the western shore of the Persian Gulf the desolate surface of Arabia slopes gently upward toward the west and southwest. In Syria and along the western margin of the Arabian peninsula this tilted table-land attains maximum altitudes of 9,000-9,800 feet (for comparison, Mt. Washington, N. H.: 6,293 ft.), from which in places it falls off abruptly into the second of the three great depressions. Although there is some difference of opinion among geologists in regard to the origin of portions of this depression, we may accept the view that as a whole it forms one of the world's most magnificent examples of what is known as a rift valley (R, Fig. 1). Such a valley is created, not in the manner of most valleys by the wearing away of streams, but, rather, by the sinking of a long, narrow strip of the earth's crust between fracture lines. The rift in question, which we may assume to be occupied by the Red Sea and continued far south into East Africa, probably divides at the northern end of the former. In the shorter western branch lies the Gulf of Suez. The eastern branch runs northward as a narrow trench almost to the highlands of Asia Minor, separating the settled uplands of Palestine and Syria from a narrow fringe of mountains and pasturelands east of which spread the true desert plateaus.

West of the Red Sea, beyond a narrow rocky desert, lies the third of the three depressions, the Nile valley (N, Fig. 1), a green, winding ribbon of cultivated ground through which the river of Egypt carries north-

ward across a thousand miles of desert some of the run-off from the equatorial rains of central Africa. Within the last few decades great reservoirs have been constructed impounding and regulating the waters of the Nile for purposes of irrigation. Furthermore, for countless generations the Nile flood each summer has watered the crops of Egypt and spread a fine deposit of new soil over the fields, ever renewing their fertility. But beyond the low western bluffs of the Nile valley the sun-baked sands and rocky plateaus of the Sahara spread westward to the Atlantic over a distance greater than that which separates Boston and San Francisco. Along the eastern half of North Africa the table-lands of the Africo-Arabian Arid Region border the Mediterranean coast; but farther west they are separated from it by the Atlas ranges, which belong physiographically with the mountain systems of the Alpine-Mediterranean Region.

Were it not for the three great depressions cleaving the Africo-Arabian Arid Region, European history would doubtless have taken a very different course. The historical influence of the depressions has arisen from two circumstances: (1) they have provided passageways southward and eastward through the deserts; and (2) they have been homes of peoples who from very early times have maintained close contacts, friendly and hostile, with the peoples of Europe.

THE THREE GREAT DEPRESSIONS AS PASSAGEWAYS THROUGH THE DESERT BARRIER

Our Africo-Arabian Arid Region is but the western half of a dry belt, in large part true desert, extending across Asia and North Africa from China to the Atlantic (indicated by stippling on Fig. 1). In Persia

and central Asia this belt is seamed with high mountain ridges, the continuation of the Alpine-Mediterranean systems. Here, through blinding sands and over bleak mountain passes, long overland trails run southeast into India and east into China. Between scattered settlements these routes traverse the wildest country. A limited amount of trade has flowed over them since ancient times, but, like the overland trails of our West a half century and more ago, they have often been lined with the skeletons of men and beasts who have perished from thirst and starvation or have been killed by brigands. Trade routes also make their way southward from well to well across the Sahara into the moist grasslands of the Sudan, but the latter have never, like India and China, been the seat of dense, civilized communities, and the commerce which has filtered through from the Sudan to the Mediterranean has been of limited importance, at least as far as Europe is concerned.

Compared with such heartbreaking traverses, the routes offered by the three great depressions are magnificent natural avenues. The Nile valley, however, is like a blind alley. From the Sudan and from Abyssinia, gold, ivory, and slaves have been brought down it to Egypt and the Mediterranean, but beyond lie impenetrable jungles and pestilential swamps peopled only by savage tribes and almost unexplored until within the last seventy-five years. On the other hand, the central and eastern depressions, *i.e.* the Red Sea rift and the Mesopotamian-Persian Gulf lowland, give direct access to the Indian Ocean, the sea route to the Far East. Like immense troughs, these depressions cut through the almost impassable barrier of desert that separates the dense populations of our European Area from the even denser populations of the Farther

Orient. In the centuries before the Portuguese explorers discovered the sea way around the Cape of Good Hope they were the main links between the eastern and western centers of civilized mankind.

COMMERCIAL AND STRATEGIC IMPORTANCE OF THE DEPRESSIONS

We should not exaggerate in our imagination the bulk of the trade that passed through these great natural channels in ancient and medieval times. European commerce on a grand scale with the remoter parts of the earth is essentially a modern growth. If the prosperity of many people in Europe now depends on the exchange of the manufactured products of European mills for the raw materials and foodstuffs of lands beyond the seas, such was not the case in classical times and during the Middle Ages. Then the inhabitants of our European Area were self-sufficient, living upon their own products of field and mine. Slaves, gold, ivory, spices, and other luxuries were imported into the Mediterranean world in limited quantities from the east coast of Africa and from southern Arabia, whence they came by the Red Sea or by land along the western edge of Arabia. Luxuries were also shipped to Europe from India and even from China by the Persian Gulf-Mesopotamian route and also, though to a lesser degree, by the Red Sea.

At about the time of the birth of Christ it was observed that during the winter the winds over the northern Indian Ocean blow steadily from the direction of India, whereas during the summer they blow in the opposite direction. Sailors, who had hitherto hugged the shoreline, took advantage of this and put out boldly across the open ocean between the coasts of Hindustan

and the entrance to the Red Sea. On the whole, however, the Red Sea route was probably used rather less than the Persian Gulf-Mesopotamian route, despite the fact that it offers a longer seaway. Navigation for small ships in the Red Sea itself is dangerous and difficult; treacherous coral reefs abound, winds are untrustworthy, there are few good harbors, and the coasts are barren and forbidding. But this route was by no means neglected. Commodities that reached the Mediterranean by it were generally shipped across to the Nile from ports either on the west coast of the Red Sea (Kuseir) or at the head of the Gulf of Suez, whence they were carried down the river to Alexandria.

As the Middle Ages drew toward a close the Oriental trade flowing through the central and eastern depressions, as well as a more limited commerce that found its way to the Mediterranean and Black Sea shores by the overland routes through central Asia, grew constantly in volume and value. By the fifteenth century it was bringing great wealth to the merchants of many a Mediterranean town.

The discovery of America and of the ocean route to the Far East, however, was followed by a transformation in the whole aspect of European commerce. The desert barrier was circumvented and the passageways, through it for a time lapsed into relative obscurity, Persian Gulf and Red Sea becoming haunts of pirates. But with the nineteenth century the prodigious increase in the volume of trade with the Far East led men in Europe once again to look to the old routes. In 1869 the Suez Canal was completed between the Gulf of Suez and the Mediterranean, and to-day a constant procession of steamers passes up and down the warm waters of the Red Sea, outward bound to East Africa, India, China, the Pacific, and Australia, homeward

bound to the Mediterranean and to the ports of North-western Europe.

Immediately before and during the World War the Mesopotamian-Persian Gulf depression assumed a position of the utmost strategic importance. While Britain controlled the sea, Germany, through her alliance with the Turk and by the hoped-for completion of a railway from Constantinople to the Persian Gulf, sought to secure an avenue across the very heart of the desert zone. Had she succeeded in doing so she would have been in a position to menace British control over India, the keystone of the British Empire.

CONTRIBUTIONS TO EUROPEAN CIVILIZATION IN ANTIQUITY OF THE RIVER VALLEY CIVILIZATIONS OF THE NEAR EAST

Let us now examine the second of the two ways in which the great depressions have influenced the historical development of Europe: that is, through contacts between their peoples and those of the European world.

Continuous settled, organized, and civilized communities have occupied the Mesopotamian and Nile valleys from prehistoric ages. Where the maintenance of life is dependent on the use of river waters for irrigating fields, coöperation and engineering skill are necessary. Coöperation flourishes only if there is a strong government to keep order and to prevent the wanton destruction of the delicate mechanisms of irrigation. The construction and repair of these mechanisms and the technical problem of crop raising require an accumulation of expert knowledge. Hence it is not altogether accidental that some of the earliest civilizations have made their appearance in

the river bottomlands of the Near East. The debt of the Greeks, and thereby of the whole of Europe, to these early civilizations of Egypt and Mesopotamia is becoming ever more clear with the progress of modern historical and archeological research. Phœnician traders from the eastern end of the Mediterranean served to link the early Greeks with the peoples of the Nile and Mesopotamian valleys. The Phœnician alphabet, out of which the Greek and Latin alphabets were ultimately evolved, was itself a modification of Egyptian hieroglyphs. Through the Phœnicians, the "whole range of oriental decorative art entered Greek life, to fill forever after a large place in the decorative art of all civilized peoples of the West, including our own to-day."¹ Like Greek art, in the culmination of its development the work of the distinctive Greek genius, Greek science also owed much to the science of the Near East, particularly in the fields of astronomy, geography, and geometry.

CONTRIBUTIONS OF THE PEOPLES OF THE FRINGES OF THE CENTRAL DEPRESSION TO EUROPEAN CIVILIZATION

The fringes of the plateaus overlooking the Red Sea on the east as well as the uplands between the Syrian rift and the Mediterranean have also been the seat of settled communities from time immemorial. Owing partly to greater altitude and partly to the proximity of the Mediterranean, somewhat more rain falls here than upon the open desert, and the rugged topography favors agriculture where intermittent torrential streams have carved out narrow valleys in the edges of the

¹ J. H. Breasted, *The Conquest of Civilization*, New York, 1926, p. 286.

plateaus. Conditions of life, though harsh, do not necessitate the endless struggle for the bare means of subsistence inevitable in the desert. Owing to the isolation of the settlements, contact with the desert rovers has, perhaps, been more intimate than in the luxuriant lowlands of the Nile, Tigris, and Euphrates. It is significant that the three great monotheistic religions, Judaism, Christianity, and Islam (or Mohammedanism), which are the supreme contributions of the Africo-Arabian Arid Region to the Occident as well as Orient, all originated on these inhospitable margins of the desert. Like the Bedouins of to-day, the children of Israel wandered in the wilderness from water hole to water hole. Mohammed in his youth was a caravan driver who spent many a night under glittering desert skies. It is, perhaps, true, as the German geographer, Friedrich Ratzel, has said, "that the monotonous and unvaried landscape [of the desert] tends to produce in man's mind the concept of uniformity, from which arises the concept of one God and a monotheistic religion."² On the other hand, the formulation of monotheism into powerful religious systems has required continuous civilized traditions which only settled communities could supply. The Bedouin alone, without the aid of the town dweller, could scarcely have developed religions having the power so to touch the heart and conscience of mankind that they would be carried to all ends of the earth.

THE RISE OF ISLAM

While Christianity in the reign of Constantine (323-337) became the favored religion of the Roman Em-

² J. Russell Smith, "The Desert's Edge," *Bull. Amer. Geog. Soc.*, Vol. 47, 1915, p. 831.

pire and was thus transmitted to Europe as a whole, Islam in the seventh century swept all before it in the Africo-Arabian Arid Region. Ever since, the world of Islam has stood opposed to the world of Christendom; the record of the conflicts and contacts between these two worlds, which differ not only in religion but in the entire nature of their civilization, is one of the most important phases of European history. Something must be said, therefore, regarding the geographical background of the rise of Islam.

Although Islam originated, as we have shown, on the desert fringes of the central of the three depressions, it was not there, but, rather, in the more thickly populated Nile and Mesopotamian lowlands as well as among the peoples of the mountainous region of north-western Africa, that it found its main centers of power. The desert nomad, despite his free, roving existence, depends upon his sedentary neighbors for many necessities. When strong governments have controlled the desert borderlands and protected the settlements, the nomads have obtained by peaceful trading the articles indispensable to them: tools, utensils, clothing, and arms, which the desert cannot provide. But when the governments of Syria, Mesopotamia, and Egypt have been weak, the tribesmen time and again have swept in from the open wastes like pirates from the seas, ravaging and robbing villages and towns along the desert's edge, only to retire unhindered to their wilderness haunts. When Mohammed's call was ringing fresh in the ears of his followers, desert rovers and townsmen for a time worked in harmony. Within a few years after the Prophet's death Syria, Mesopotamia, and Egypt lay at their feet. Mohammedan armies, recruited largely from the sedentary folk but commanded by Arab leaders, carried Islam throughout the entire Africo-Arabian Arid Region and far beyond

its borders. But the tribes of the desert, soon after the first burst of conquest, reverted to their age-old rounds of intertribal warfare and never again have they seriously threatened the lands beyond their immediate borders.



FIG. 2

The Mohammedan World. 1—regions now preeminently Mohammedan; 2 and 3—parts of Europe that have once lain within the Mohammedan World; 2—areas at one time or another under Moorish domination between 711 and 1452; 3—areas at one time or another under Turkish domination between c. 1360 and 1918. G—Granada; CO—Constantinople; C—Cairo; M—Mecca; B—Bagdad. Based on map accompanying Isaiah Bowman, "The Mohammedan World," *Geographical Review*, Vol. 14, 1924, pp. 62-74, and on W. R. Shepherd, *Historical Atlas*, New York, 1911, pp. 53, 164. Note that owing to the projection employed the areas of the northern half of Africa, of Arabia, and of India are exaggerated relatively to that of Europe.

RELATIONS BETWEEN THE MOHAMMEDAN WORLD AND EUROPE

Let us for a moment overstep the limits of the physiographic region which it is the main purpose of this chapter to discuss and take a bird's-eye view of

the Mohammedan World thus created by the Islamic conquests, and of its relations with the Christian World of Europe. This Mohammedan World corresponds essentially with the vast dry zone that spreads, as we have explained, from China to the Atlantic (compare Figs. 1 and 2). On the north it overlaps the borders of the Alpine-Mediterranean Region in northwestern Africa and in Asia; to the south and east there are large Mohammedan colonies in India and the East Indies.

All through the Middle Ages the farther spread of Islam was a constant danger to southern and southeastern Europe. Even if the Mediterranean were not a Mohammedan lake, Mohammedan pirates often ravaged its coasts. The southwestern and southeastern peninsulas of Europe, which approach within a few miles of Africa and Asia, as well as the island of Sicily and the steppes of southern Russia, have all been under Mohammedan dominion during longer or shorter periods. Wars with the Mohammedans followed each other in dreary succession, in Spain from 711 to 1492, in Russia from the late thirteenth to the twentieth century, and in the Balkan peninsula from the latter part of the fourteenth century until the World War of 1914-1918.

Although this chronicle of conflict bulks large in the past history of relations between Christendom and Islam, the latter will never loom again as a menace to Western civilization as it did when Leo the Isaurian defended Constantinople in 717 and Charles the Hammer beat back the Moors from the very heart of France in 732. The drought and desolation of the central core of the Mohammedan World, the isolation of its various agricultural regions, and its poverty in such mineral resources as coal and iron, upon which alone a powerful

and progressive industrial civilization can be based, all combine to put the Islamic countries at an ever-growing disadvantage. When children in Spain, the Balkans, and Russia trembled at the mention of Moor, Saracen, or Turk, Europe had hardly begun to exploit the treasures of field, forest, and mine bestowed upon her by a moister climate, a more varied land surface, and a more complex geological past.

The story of the relations between Europe and Islam has not, however, been exclusively one of military campaigns. Especially during the Middle Ages, when Mohammedan science and art had reached their culmination, the Christian peoples borrowed much that was admirable from the outposts of Islam in Spain and Sicily. The superb achievements of the Greeks in the realm of science had almost been lost to view in the West during the early medieval period. Yet Mohammedan scholars read the works of Greek authors, translated them into Arabic, and added many original ideas of their own. By the closing years of the eleventh century, students from England, France, and Italy had heard of the priceless treasures to be found in the books of Mohammedans. Journeying to Spain and Sicily,* * these enthusiasts learned Arabic and searched for manuscripts in order to translate the fruits of Moslem learning into Latin. The stimulus thus given to the intellectual awakening of Europe was incalculable.

Less fortunate has been the Mohammedan influence upon southeastern Europe. Here Islam was represented by the Turk from inner Asia, cruder, more brutal, less susceptible to the refinements of culture than his Arab or Moorish co-religionist. Turkish rule long lay as a dead weight upon the Balkans and southern Russia.

CHAPTER II

THE ALPINE-MEDITERRANEAN REGION

PHYSIOGRAPHY AND CLIMATE

The mighty dislocations of the earth's crust to which the Alpine-Mediterranean region has been subjected late in geologic times (see above, pp. 9-10) have given this region a far more complicated relief than any other part of our European Area. The structural skeleton is formed by immense chains of complexly folded mountains that extend either in fairly straight lines, as those of the Pyrenees, Central and Eastern Alps, Caucasus, Taurus, and Atlas, or in mighty curves or bows, as those of the Western Alps with the northern Apennines, the Carpathians with the Balkan ranges, and the Betic Cordillera with the mountains of the Moroccan Riff (see Plate 1, at end of book). In places the continuity of these mountain systems is broken, only to be resumed beyond an intervening stretch of sea or lowland. The lines of folding, however, might here be traced in the rocks deep beneath the surface. In some places the crests of partially submerged folded ranges rise above the Mediterranean as islands: for instance, the Balearic Isles in the western Mediterranean are probably a northeastward continuation of the axis of folding represented in the Betic Cordillera; the ridge that traverses northern Sicily is part of a link connecting the Apennines and Atlas ranges of North Africa; the islands of the southern Ægean Sea are on a structural line connecting the ranges of the Balkan

Peninsula with those of Asia Minor. The student should fix firmly in mind the main trends of these mountain systems and their branches in relation to the marine basins and lowlands that they enclose, as well as to the massives that they encircle or against which they abut. If these relations are well grasped, the positions and distributions of the human geographical elements of the region will more readily slip into place.

Like the topography, the climates of our Alpine-Mediterranean Region are varied. We have already explained (above, p. 8) that over the northeastern interior of the region the climate is more like that of Northeastern Europe than like that of the Mediterranean. Moreover, in the heart of Asia Minor, in the Balkan Peninsula and Spain, as well as in the higher mountains, conditions are harsher and more continental than near the coasts. Indeed, only the vicinity of the sea enjoys the Mediterranean climate in its more characteristic aspects.

Summer weather where genuinely Mediterranean climate prevails is not unlike that of the desert belt to the south, except that on the European side of the Mediterranean the sea tempers the hot gales that occasionally blow from the Sahara. Winter weather somewhat resembles that of northern Europe in its succession of storms, although the mountain ranges shut off the cold north winds.

In summer a Mediterranean town goes to sleep during the warmest part of the day. Sunlight is everywhere, flooding the dusty streets and dazzling the eyes as it beats on whitewashed housewalls. A strong wind often blows, raising dust and filling the air with a yellowish haze, but dying away at sunset. In the evening the air cools, people come out from their houses and spend much of the night on the streets and in the

parks and theaters. During the Mediterranean winter, with the storms come periods of rainy and cloudy weather; snow appears on all the higher hills. It does not, however, grow cold enough—as in northern Europe—to interfere with plant growth, and the rains cause the fields, parched and brown during the summer and early autumn, to turn green as early as November or December. The countryside then changes its appearance from that of a semi-desert to that of a broad garden. Between the rains are cool, bright days when the air is marvelously clear.

VEGETATION AND AGRICULTURE

The natural vegetation of the regions of typically Mediterranean climate is adapted to withstand the long, dry summers, during which it must lie dormant. Many of the plants are evergreens, with thick, succulent leaves that retain moisture through the months of drought. Trees lead a precarious life except where they are well tended; but flocks of goats and sheep, and forest fires have long since destroyed most of the woodland. The hills about the Mediterranean, hence, are not green or blue in the distance, as those of eastern North America or northern Europe, but yellowish or brownish. The landscape in many places reminds one of southern California, which has a similar climate and vegetation. As in California, by the careful preservation of water and its use through skilled methods of irrigation, some of the disadvantages of the unequal seasonal distribution of the rainfall are neutralized.

Olives and citrus fruits (lemons, oranges, etc.) thrive particularly well in lands of the Mediterranean climate. The olive tree especially, with its gnarled trunk and small pale-green leaves, is the characteristic cultivated

tree of this region. Olive orchards, in which the trees are laid out in regular rows, cover many a hillside and plain. In ancient times, as now, olive trees were regarded as a community's most valued capital and the destruction of the orchards in war was considered a willful atrocity.

The Mediterranean peasant from the remote past has lived on bread made from the wheat grown in his fields, on wine from his vineyards, and on olives from his orchards. Meat as a diet has been of less importance. Nowhere do the border lines limiting the territories within which the olive and citrus fruits may be grown depart very far from the sea.

THE GROWTH OF CITIES

Yet the peasant, notwithstanding the importance of his function in the economic life of the lands where he cultivates his vines and pastures his flocks, has not been the man who has given its flavor to Mediterranean culture. This has been the work of the city dweller. From the dawn of recorded history the Mediterranean world has been a region of towns. In this respect it has presented a marked contrast both with the Africo-Arabian Region and with northern Europe. In the former, nomad and farmer have been the dominant elements in the population; the only great towns have been administrative capitals, like Babylon or Memphis, Bagdad or Damascus; seaports like Alexandria or Basra; or religious centers, like Jerusalem, Medina, and Mecca. Northeastern Europe to this day is fundamentally rural and agricultural, and only in modern times has Northwestern Europe become preëminently urban. At a time when forests spread over France, Germany, and Britain the citizens of many a Mediter-

anean town were attending the theater, trading in the market place, and discussing politics, ethics, and metaphysics in the public baths.

If men dwelt in small communities at peace with all their neighbors, if they subsisted entirely on food raised on their own fields, if they clothed themselves wholly from wool sheared from their own flocks, if they constructed their dwellings exclusively out of local building materials, and if they dispensed with luxuries and with government, there would be no towns. Population on the whole would be evenly distributed, denser only where the fields are more productive and sparser where they are more sterile. But civilized populations are nowhere thus distributed. With the beginnings of warfare, mining, manufacturing, commerce, and government there is an inevitable tendency for men to gather in towns and cities.

The question of why cities spring up in certain places and not in others may be answered, in part at least, in terms of geography. Geography, however, by no means gives us the sole explanation of the growth of any town, even the smallest. There are many excellent town sites that have been left unsettled owing to the chances and accidents of history. Likewise there are many towns which occupy and even prosper in markedly disadvantageous positions, owing to these same chances and accidents.

In dealing with urban growth, geographers distinguish between the *situation*, or position of a city in relation to the entire surrounding country upon which it is dependent, and the *site*, or immediate tract of land upon which it stands. The relative importance of site and situation varies widely. At the present time so far-reaching are the commercial, financial, or political connections of some of the greatest modern cities,

London or New York, for example, that a full treatment of their situation would force the student to extend his view over most of the earth's surface, and Rome, as we shall see later, long held a similar position in relation to the Mediterranean world and indeed, to the area of European culture as a whole.

DEFENSIBILITY OF SITE AS A FACTOR IN URBAN GROWTH

The sites of many towns in the Mediterranean region, as well as in other parts of Europe, were first selected because they were easily defended. Farmers or herdsmen dwelling in a district subject to hostile invasion would build their houses on top of or about the base of some nearly inaccessible hill. From this center they would go to their outlying fields or pastures during the day. In the course of time the town under or on the fortified hill would become the administrative or economic center of the neighboring countryside, or perhaps of a small independent city state. Such was the origin of many of the cities of antiquity; Athens and Corinth, for instance, each clustered about the base of a precipitous crag. The "seven hills of Rome" served as a refuge for the farmers of the adjacent plain. Fear of the pirates who infested the Mediterranean until as late as the nineteenth century has often led to the selection of sites a few miles back from the shore. "Farther than this the pirates dared not penetrate, lest their escape should be cut off."¹ Athens, Megara, Corinth, and Rome, to cite only a few of many examples that might be given, were all thus located. Likewise during the Middle Ages many towns were built on hilltops

¹ E. C. Semple, "Pirate Coasts of the Mediterranean," *Geog. Rev.*, Vol. II, 1916, p. 136.

that could be held against pirates, marauders, or armies from some enemy city. Islands have also occasionally served the same purpose as hills in the case of cities that have been able to dominate the seas with their navies. Tyre, one of the cities of the Phœnician traders, was built in part on two islets close to the coast of Syria. Refugees fleeing from the fearful Huns founded Venice on a group of marshy islets in the wide lagoons bordering the northern end of the Adriatic. A promontory encircled on three sides by the great gorge of the River Tagus provided Toledo in Spain with an almost impregnable site.

A defensible site through the very fact of its difficulty of access is frequently an obstacle in the way of the future growth of a town. Such, however, is the momentum of human institutions, that, once established, a town tends to persist. Many of the hill towns of Italy, France, and Spain are important centers to this day, even though great labor and expense are involved in transporting travelers and supplies to and from them. Orvieto, for instance, is reached from the railway station by a funiculaire, and Laon, in France, is connected with its station by a flight of steps and by a spur line of railway which winds around the hill. Venice is still queen of the lagoons, but no modern city founder would dream of choosing such a site, reached, as it is, only by a long causeway from the mainland, and, owing to the shallow harbor, inaccessible to large steamers.

While considerations of defensibility may often lead to the selection of sites, other factors usually govern the continued growth of cities or bring about their founding on sites that are not suitable for defense. Some of these factors, in the main those of situation, have a very clear and unquestioned relation to the

geographical environment. It is man, however, not man's environment, that builds cities. The germ of the success or failure of a town lies largely in the character of its inhabitants, and this, in turn, is determined by a complicated interplay of human or historical forces. Where the conditions of geographical environment are favorable men may, and often do, take advantage of them, but not inevitably, and, to repeat, towns continue to exist where the environment is distinctly hostile.

MEDITERRANEAN COMMERCE AS A FACTOR IN URBAN GROWTH

Of all forms of human enterprise, commerce is perhaps the primary breeder of cities. Commerce is the exchange of the products of one region for those of another, and in this exchange geographical circumstances are a very important, though not the only, factor in determining what these products shall be and the routes by which they shall be transported.

The geographical circumstances of the Mediterranean region have been exceptionally favorable to commercial and, with it, to urban development. Three great continents are here linked by easily navigable seas. Good harbors facilitate transshipments between shore and ship. Carriage by water is cheap and, in the Mediterranean, relatively safe. Although strong winds often blow, whipping up the dark blue waves, the Mediterranean is without many of the dangers of the Atlantic: the latter's mighty swell, swift tidal currents, dense fogs, and winter storms of snow and sleet.

No seacoast could be better suited to primitive maritime commercial enterprise than that of the Ægean,

with its landlocked coves and harbors and its anchorages sheltered from the winds by islands and promontories. It is little wonder that from the ages before Homer the Greeks have been a seafaring folk. The *Iliad* and *Odyssey* are filled with the lore of the sea and of lands beyond. The *Odyssey* reflects misty knowledge that the early Greeks had acquired of the western Mediterranean, and, perhaps, of the Atlantic, through contacts with Phœnician seamen who had established remote trading posts, or possibly through actual voyages carried out by adventurous Hellenic wanderers. At all events, Greek colonies in a later age were scattered far and wide along the Mediterranean shores, in Spain and southern France, in Sicily and southern Italy, in northeastern Africa, and around the Black Sea. The colonists carried with them the political institutions and brilliant civilization of Greece and western Asia Minor and through contracts with the cruder native peoples transmitted many elements of this civilization to nearly all parts of the Mediterranean basin. Early Etruscan and Roman architecture and art are adaptations from Greek models, and the Latin and Etruscan alphabets are modifications of the Greek.

MEDITERRANEAN CITY STATES

Surrounding the sunlit waters of the Mediterranean are lands of varied relief. Here the mountain ridges separate the earth's surface into many minor physiographic and climatic regions ranging in area from small plains of a few square miles, like those of Athens or Sparta, to wide lowlands like those of Andalusia or Aragon in Spain or the Po valley in northern Italy. Each of these regions differs somewhat from its neighbors in climate and soil, vegetation and mineral re-

sources, and in the character of the people who occupy it; each tends to form the natural setting for the growth of one or more towns.

Before Rome had brought under her sway all the lands bordering on the Mediterranean many of the city states of western Asia Minor, Greece, Sicily, and Italy were wholly independent. Not infrequently the territory under the direct political control of each city would correspond with the small natural or economic region of which the city was the heart. Encircling mountains and sea enabled each town to develop and to maintain against the outside world its own individuality. Even when an Athens, or a Sparta, or a Thebes succeeded in establishing political and military hegemony over some of its neighbors, it was not able to bring about any radical alteration in the peculiar institutions of the subjugated city states. Only with the Roman conquest may the distinctive municipal system of the Hellenic world, with its extraordinary urban individuality, be said to have disappeared, finally absorbed into the provincial organization of a great territorial empire.

In the Middle Ages, after the long period of political chaos that followed the break-up of the Western Roman Empire, city states reappeared, especially in northern Italy. This was partially due to the revival of commerce in a land without a strong central government. These cities were independent in fact if not in name, and each became as markedly individualistic in its institutions and social life as the Greek city states had ever been. Like the Greek cities, some of these Italian towns came to dominate politically and commercially more or less well-defined natural regions: Florence and Pisa in the deep, mountain-ringed valley of the Arno; Siena in the midst of the hilly tract of

central Tuscany. The more powerful of the Italian cities, furthermore, were able to establish political mastery over their neighbors: Florence over Pisa, Volterra, and Arezzo; Milan over Parma, Piacenza, and other towns of the middle Po valley; and Venice over Verona, Vicenza, Udine, as well as over many ports of the Dalmatian coast.

On the basis of the varying ranges of their influence, cities may be grouped into three main types. The first or lowest comprises purely local centers; the second (between which and the first the line is often hard to draw), cities whose influence has been felt over much wider radii; and the third, certain altogether exceptional cities, whose influence has been extremely far reaching.

The cities of the first type serve as political and commercial centers for the immediately adjacent country only. Here the farmers exchange what they grow, for clothing, tools, and other necessities. The goods that these towns import are destined for local consumption. Limited contacts with the outside world make for a somewhat humdrum and provincial type of life. Although at times powerful in Greece, Bœotian Thebes was a city of this sort, and the Thebans were looked upon by the more cosmopolitan and worldly Athenians as boorish rustics.

The cities of the second type are those having much wider orbits of human contact than the purely local centers. Such cities in the Mediterranean world are connected by commercial, industrial, political, or cultural ties with distant regions.

At this point we propose to take one group among the Mediterranean cities of the second type, that of the seaports, for more detailed consideration. In our study of Northwestern Europe we shall discuss cities

that have been primarily the products of manufacturing industry. While it is true that manufacturing has flourished in the Mediterranean world from early antiquity, it has not, as in Northwestern Europe, been the fundamental cause for intensive urban development. Furthermore, manufacturing in Northwestern Europe, for reasons that will be explained later (see pp. 78-94), is possibly more intimately linked with the circumstances of the geographical environment than in the Mediterranean region. The seaports, on the other hand, are the most genuinely typical of Mediterranean towns and in their positions and growth illustrate clearly how human activity has taken advantage of favorable geographical conditions and has been restricted where these conditions were opposed.

THE GEOGRAPHY OF MEDITERRANEAN PORTS

Two conditions are requisite for the vigorous growth of a seaport: a harbor that is at least fairly good and a favorable situation on lines of commerce. Some of the stretches of the Mediterranean seaboard fail to meet one or the other or both of these conditions. From Alexandria westward for a distance of nearly five hundred miles to the site of the ancient Cyrene there are no good harbors and the country in the interior is a desert; no port of any significance has ever developed here. The southern and northern coasts of Asia Minor likewise have few good harbors and are shut off by mountains from the plateau in the heart of the peninsula; their coast towns are small, carrying on minor local trade only. Similar conditions prevail along the northeast coast of the Black Sea. The Riviera from Genoa westward was a desolate, sparsely settled shore for centuries before it became the world's

great winter playground. The serrated east (Dalmatian) coast of the Adriatic has an abundance of harbors, but overlooking its ragged fringe of islands and promontories the forbidding ridges and plateaus of the Dinaric ranges constitute one of the most difficult to traverse if not the loftiest of the mountain barriers of Europe. Even at the present day there are only two railways, both of narrow gauge with numerous curves and steep grades, coming down to this coast in a reach of over three hundred miles. Its ports are therefore of little significance except locally.

Other reaches of the Mediterranean shoreline, however, have been exceptionally favorable to the growth of ports. We have already referred to the part that the Ægean coasts have played in this respect. Where the trade routes through the three great depressions that penetrate the Africo-Arabian Arid Region converge near the eastern end of the Mediterranean, ports have clustered since early times. The commercial supremacy of the Phœnician cities, Tyre and Sidon, near the middle of the Syrian coast, was due partly to their central position at the meeting place of trade routes from east, south, and west. Farther north such ancient cities as Myriandrus, Seleucia, Laodicea, and their medieval and modern successors, Alexandretta (Iskanderun), Latakia, and Beirut, serve as termini on the Mediterranean of routes leading out of Mesopotamia. Since the fourth century before Christ Alexandria has provided the main outlet for Egypt, and, indeed, until the construction of the Suez Canal much of the trade that passed between the Mediterranean and the Orient by the Red Sea found its way through the warehouses of Alexandria (see above, p. 18). Near the eastern extremity of the Black Sea the port of Trapezus (the medieval and modern Trebizond), has marked the end

of a long overland route from Persia and central Asia. Here it was that Xenophon and the Ten Thousand at last saw the sea after their desperate retreat over the mountains from Mesopotamia. Routes from the interior of Asia also come down to the northern coast of the Black Sea beyond the western end of the wall made by the Caucasus ridge. The expansion of medieval trade through the enterprise of Venetian and Genoese merchants gave birth to a group of ports on the Crimean peninsula and at the mouth of the River Don. In modern times Odessa, where the plains of Russia border directly on the waters of the Black Sea, has grown as the great southern outlet for grain from the Russian steppes.

Before the Atlantic superseded the Mediterranean as the main marine highway of commerce between Europe and the outer world, the head of the Adriatic Sea occupied an exceptional commercial position. Here the waters of the Mediterranean system approach nearer to the populous lowlands of central Europe than at any other point. Natural avenues lead northward into southern Germany by the Brenner, the lowest of the major Alpine passes, and over the narrow yoke between the eastern Alps and Dinaric ranges into the broad countries watered by the middle Danube. To the west extends the valley of the Po with its fertile fields and busy towns.

In the early Middle Ages, after the fall of Rome, Ravenna, on the coast not far south of the delta of the Po, became for a time the most populous and powerful city of Italy. But silt washed down by the streams from the neighboring Apennines and carried by the waves and currents of the Adriatic has filled its harbor and built out a strip of land four miles wide between town and shore. Hence for centuries Ravenna has

slumbered on its marshy plain, its trade gone for good and its former glory all but forgotten. After the decline of Ravenna, Venice became supreme on the Adriatic in naval power, commercial enterprise, and wealth, a position that she held through the Middle Ages. To promote and protect her trade with the Levant and farther regions of the Orient she seized harbors and islands along the sea routes eastward, and during the thirteenth century, acting in concert with Crusaders from northern Europe, she actually gained control over Constantinople itself. To assure her safety from attack by land and to guard the approaches to the Brenner pass, her commercial link with Germany and northern Europe, Venice also conquered a broad block of country on the adjacent mainland of Italy. Various causes, political and geographical, however, have led to the decline of Venice in modern times. The local topography is extremely ill adapted to the construction of the docks, warehouses, and railroad yards that a modern port requires. While the harbor was ample for the shallow-bottomed fleets of the medieval Venetian mercantile marine, steamers of deep draught cannot enter. Moreover, it is cheaper to ship goods between Germany and the Orient through the Straits of Gibraltar and Suez Canal than over the Brenner Pass and by the Adriatic route. With the construction of a railway through the narrowest portion of the Apennines between the upper Po valley and the coast of the western basin of the Mediterranean, Genoa, on a commodious modern harbor, has definitely superseded Venice as the leading seaport of northern Italy.

If Venice has lost her position as one of the world's foremost ports, two other cities at the head of the Adriatic have constantly grown in commercial significance: Trieste to the east on a magnificent harbor,

as the outlet of Austria, Bohemia, and the valleys and foothill country of the eastern Alps; and Fiume, to the south of Trieste, as the gateway of the Hungarian plain and its borderlands. Since the World War, however, by annexation to Italy these two ports have been politically severed from the countries they would normally serve. One of the most perplexing problems of post-war political geography is presented by this bottling-up of Austria, Hungary, and northern Yugoslavia, for, although the latter owns the Dalmatian coast, no port suitable for bulky through shipments can be developed there for the reasons that have already been explained (see above, p. 38).

The coastal strip at the head of the Ligurian Sea and the Gulf of Lions occupies a position in relation to northwestern Italy and France somewhat similar to that of the coast at the head of the Adriatic in relation to central Europe. Genoa was the rival of Venice through many centuries. In the Middle Ages there were frequent, long, and bloody struggles between the Genoese and Venetian navies for mercantile and political supremacy in the harbors of the Levant. Genoese merchants not only competed with the Venetians in the Eastern trade, but built up vigorous commercial intercourse with the coasts of northwestern Africa.

One hundred and eighty miles west of Genoa, beyond the commercially sterile stretch of the Riviera, lies Marseilles, the terminus on the Mediterranean of one of the most important routes of Europe. This route is formed by the deep trench of the Rhone valley leading down from northern France, Switzerland, and southwestern Germany between the Massif Central and the western arc of the Alps. It is of interest to compare the geographical position of Marseilles in relation to modern commerce with that of Venice. The

harbor of Marseilles, though originally small, has been artificially enlarged by the construction of breakwaters and docks and is now well adapted to the service of modern shipping. Whereas the route from Venice into northern Europe traverses a mountain pass, albeit one of the easiest, that from Marseilles runs up the Rhone trench over a long and nearly level flood plain and across a low divide into the watershed of the English Channel and North Sea. Whereas between Venice and Germany two national frontiers must be passed, there is no national boundary line between Marseilles and the Channel. It is not surprising that Marseilles has come to be the first of Mediterranean ports, with steamship lines connecting it with the Far East, the Levant, the French colonial empire in North and West Africa, the West Indies, and South America, while Venice, which once occupied an even prouder position, now derives her income in the main from the tourists who flock there to see her beautiful canals and palaces and churches.

There are many other important Mediterranean seaports; for example, Smyrna, the main outlet for much of the interior of Asia Minor; Salonica for the heart of the Balkan peninsula; Naples and Brindisi for densely populated southern Italy; Leghorn for the Arno valley and north central Italy; Tunis, Algiers, Oran, and Tangier for the Atlas countries; Barcelona, Alicante, and Malaga for eastern Spain. None of these, however, is the terminus of such far-reaching trade routes as those that come to the ports with which we have been dealing.

Before leaving this subject a word should be said in regard to the sites of certain ports in relation to the mouths of the rivers flowing into the Mediterranean and its connecting seas. Most of the principal Atlantic

ports lie either on the estuaries or near the heads of seagoing navigation of rivers, as, for instance, London, Bordeaux, and Hamburg, or New York, Philadelphia, and New Orleans. This is not true of the Mediterranean ports. The latter stand at some distance from the mouths of the streams for the valleys of which they serve as the gateways. The explanation is to be found in the slight range of the Mediterranean tides as compared with those of the ocean. The Atlantic tides not only twice a day scour out much of the sand and silt that would otherwise choke the river mouths, but themselves are often a direct aid to navigation. In the Mediterranean, on the other hand, the estuaries of all the larger streams are so filled with shoals and sandbars that vessels of deep draught cannot enter. We thus find that Alexandria lies a few miles west of the mouths of the Nile; Venice was built in the lagoons to the north of and beyond the reach of the mud banks of the Po delta; Marseilles is well away from the alluvium brought down by the Rhone; Leghorn occupies a similar position in relation to the Arno, Barcelona to the Ebro, Constanza to the Danube, and Odessa to the Dniester and Dnieper.

CITIES OF EXTRAORDINARY INFLUENCE: ROME AND CONSTANTINOPLE

We now come to the Mediterranean cities of the third type. Of these there have been only two: Rome and Constantinople. We place them by themselves because they have exerted an altogether extraordinary influence over the development of civilization not only in the Mediterranean world but throughout Europe. Human institutions in all parts of Europe, and in the New World as well, are very different from what they

might have been had Rome never existed; and the same may be said of Constantinople in relation to eastern Europe and western Asia. This is true in the same degree of no other cities. In shaping the historical growth of European civilization Rome and Constantinople have done much to mold the human geography of Europe as it exists to-day.

From Rome as a center Latin culture spread to all the shores of the western Mediterranean and across Northwestern Europe. As a result, the language of Rome became the basis of the tongues now spoken in Italy, France, Spain, and Portugal; it contributed countless words to English and a somewhat lesser number to German. The law of most of Europe, except England, is founded directly on the Roman law. There are probably more buildings in western Europe copied from Roman models or their modifications than from any other architectural styles. The bull-fights of Spain are an inheritance from the even more brutal spectacles presented in the Roman arenas. But the most potent influence of Rome in the West has been that of the Roman Catholic Church. For over a thousand years the Pope was the supreme head of the religious life of Europe from the Arctic circle to the Mediterranean, from the Atlantic to the Russian steppes, and since the Reformation Ireland, France, Italy, Spain, southern Germany, Austria, Hungary, and Poland have remained predominantly Catholic. No institution has done more than the Catholic Church to give character and color to European life.

It need scarcely be remarked that the immediate reason why Rome came to exert such a mighty influence is to be found in her dominion during a span of four centuries over virtually the whole of the Alpine-Mediterranean Region, together with a large portion

of Northwestern Europe and the northern fringes of the Africo-Arabian Arid Region. Geography alone fails to explain fully why she was able to build up and hold this vast empire. It fails to explain, for instance, the extraordinary genius for statecraft with which the Roman people were endowed. It does, however, give us a clew to some of the outstanding reasons why this genius could find its full expression in the sphere of provincial administration.

In Italy between the Apennines and the Mediterranean coast is a long and narrow strip of relatively low country. Only as compared with the enclosing mountains, however, does this strip deserve the name of a lowland, for in the main it presents a varied and in places a bold relief. Rome stands on a group of worn-down volcanic hills near its center. Around the city to the south and southeast spreads the Campagna, an alluvial plain, agriculturally prosperous in classical times and the home of the Latin farmers. Northward the Tiber valley offers an easy highway toward the plains of the Arno and Po. Rome stands near the center of the main north-and-south route through the heart of Italy, a circumstance which undoubtedly aided her in gaining mastery over the entire peninsula in the third century before Christ. Nor was the central position of Italy in the Mediterranean World the least important factor in the building of the Roman Empire. Once the Carthaginian menace was removed, Rome dominated the western basin of the Mediterranean, from which, as a base, it was relatively easy for her legions to push eastward into the Balkan peninsula and beyond, and northward into Gaul, Britain, and western Germany.

By the time the Mediterranean and all its adjoining lands had been brought under Roman rule, the

Empire had become coterminous with the region of European civilization. Beyond the Roman borders lay either a wilderness or the territories of weak barbarian states. The Mediterranean provided superb interior lines of communication for the shipment of armies and goods bound to and from nearly all of the Roman provinces.

The longest period of uninterrupted peace that Europe has enjoyed was in the first century and a half of the Empire when all the peoples and states that had previously opposed Rome were included within her frontiers. The breaking of the frontiers accompanied the decay and disintegration of the internal structure of the Empire, but after the political power of Rome was broken she still was destined to shed the light of civilization into the remoter as well as the nearer parts of Europe through the ecclesiastical power vested in the papacy.

After the fall of the Empire Italy split into many small, mutually hostile states, destined to remain without a preëminent political center until the last half of the nineteenth century. With the unification of modern Italy, however, Rome again became the capital, in part as a response to sentimental considerations but also in large measure owing to her advantageous geographical position. There is no doubt that Mussolini in his apparently successful attempt at binding the united Italy into an even more firmly knit state has capitalized to the full not only the historical tradition of Rome but her central geographical situation.

The dominant position of Constantinople and the preponderance of her influence in eastern Europe and southwestern Asia have been due in the first instance to the fact that in 326 the Emperor Constantine founded that city on the Bosphorus as the new capital

of the Roman Empire. After Rome and Italy, Spain and North Africa, Gaul, Germany, and Britain had in the fifth century fallen victims to the invader from the northern forests nominal successors of the Cæsars held Constantinople and adjoining territories of varying extent throughout the Middle Ages. But although analogous in many ways, the influence of Constantinople in shaping the civilization of eastern Europe has not been as potent as that of Rome in the West. Nevertheless, Constantinople preserved with many modifications the Roman inheritance of a powerful, centralized administrative machinery, a machinery which was taken over by the Ottoman Turks when they finally seized the city in 1453.

While the position of Rome is impressive, that of Constantinople is perhaps even more so as an illustration of the manner in which geographical site and situation may combine to favor the continued supremacy of a great city. On the northeast the Ægean Sea is connected by the narrow straits of the Dardanelles with the small sea of Marmora, which communicates through an even narrower strait, the Bosphorus, with the deep, almost harborless Black Sea. These two waterways from the days when the small Greek colony of Byzantium was established on the European side of the Bosphorus have occupied a critical position not only in relation to the entire eastern Mediterranean region but to the lands lying north and east. The sea routes across the Black Sea, which converge on the Bosphorus like the ribs of a fan, are but the continuation of land routes leading out from the Carpathian countries, from the vast and immensely rich plains of Northeastern Europe, from the regions between the Black and Caspian Seas, and even from the interior of Asia. The varied products of these countries for more than twenty

centuries have been carried through the straits southward and westward into the Mediterranean world and beyond, and in exchange for them the products of the Mediterranean lands and of western Europe, and in modern times of America and the Far East, have flowed back. This hour-glass neck of maritime communication is crossed by equally important land routes between southeastern Europe and southwestern Asia. The Romans built two military roads over the Balkan peninsula to Byzantium, whence their legions, bound for the frontier wars and garrisons of Asia, were ferried to the Asiatic side. In the Middle Ages the straits were traversed by Crusading armies that had come down the valley of the Danube from central Europe. Moreover, during the World War German and Austrian divisions were transported by rail to the Holy Land and Mesopotamia by much the same routes as those of their Crusading forebears. Had the British and French in their desperate attempt at Gallipoli in 1915 succeeded in gaining control of the Dardanelles and ultimately of the Bosphorus, not only would the sea route to Russia have been opened, enabling the Allies to send reënforcements to the Eastern Front and to receive supplies of grain from the Russian fields, but the Central Powers would have been cut off from their Asiatic sphere of operations, and the war would doubtless have come to an earlier end.

The immense military and commercial importance of the straits which these few examples illustrate was recognized by Constantine in his selection of Byzantium as the most favorable place for the founding of the great capital to which he gave his name. Thus Constantinople, on a site easily defended from attack by sea or land and in a situation extraordinarily favorable from the commercial point of view, soon eclipsed

Rome itself and for a thousand years stood supreme as the most populous, most prosperous, most cosmopolitan, and most scholarly city of the European World. The influence of her distinctive culture, which came to be known as Byzantine, radiated in all directions over the Balkan peninsula and Asia Minor and penetrated the great plains of Russia. The leading Christian sect of these regions, the eastern counterpart of Roman Catholicism, is the Greek Orthodox Church with its patriarch in Constantinople. The Russians and other Slavic people in southeastern Europe use an alphabet which is an adaptation and modification of the Greek alphabet; the architects of the Balkan peninsula and Russia have followed Byzantine styles; even the Arabs of the Middle Ages borrowed many an idea in the realms of art, architecture, science, and scholarship from the Greek civilization of the Eastern Empire. One of the most significant boundaries in all Europe is that which separates the regions that have been affected by cultural influences emanating mainly from Rome from those that have been affected by Byzantine influences.² This boundary is not a sharply marked line like a political frontier, but forms, rather, a zone of transition. Of course, the diverse effects of these influences have not been the only elements differentiating the peoples on either side of this great cultural frontier that stretches from the Arctic Ocean to the Adriatic Sea. They have served, however, to intensify differences in languages, in economic, religious, and political sympathies, and in some instances to separate peoples (like Poles and Russians) racially and linguistically akin.

The Balkan peninsula as a whole lies within the area of Byzantine influence: the dominant languages here

² Fig. 3 on p. 69 should be carefully examined in connection with this section.

are Bulgarian and Serbian,³ which use the Cyrillic alphabet, and Greek; the dominant church is the Greek Orthodox. Farther north, it is hard to say on which side of the line the Rumanians belong, for, while they are Greek Catholics, they speak a Latin tongue, use the Latin alphabet, and pride themselves on their supposed descent from Roman legionaries. Still farther north, beyond the limits of our Alpine-Mediterranean Region, as we shall see later, the boundary is easier to define. The northern extension of this line, rather than any vague physiographic or climatic border drawn across almost featureless plains, marks the true human boundary between Northwestern and Northeastern Europe. Its existence helps explain much of the antagonism that through the centuries has often flamed forth into war between the peoples dwelling on opposite sides.

EXCEPTIONAL PARTS OF THE ALPINE-MEDITERRANEAN REGION

Before leaving the Alpine-Mediterranean Region, something must be said of those portions of it where geographical conditions differ materially from the typically Mediterranean conditions explained in the earlier part of this chapter. On the plateaus of Asia Minor and Spain, on the lowland of Hungary, and in the loftier mountain ranges the climate is more severe, the population less dense and less concentrated in urban centers, than in the valleys and plains closer to the Mediterranean waters. Both in relief and climate the interior of Asia Minor bears some striking resemblances to Spain, with which it has often been compared. A plateau is here cut off from rain-bringing

³ The Croatians, who speak the same language (properly Serbo-Croat) use the Latin alphabet.

winds by mountain rims roughly paralleling the northern and southern coasts of the peninsula. As a consequence, the climate is dry and much of the ground barren enough. Over the southeastern portion of this interior tract saline steppes and salt lakes lend the landscape the aspect of a veritable desert. At present most of the people in the interior are Turkish farmers and shepherds, whereas around the coastal fringe Greeks are in the majority.

Central and western Spain and the greater part of Portugal form a broad table-land which we may call the Iberian Massive. The portion which lies within Spain is known as the Meseta. This open, wind-swept land, averaging 2,000-2,500 feet above sea level, overlooks with a bold escarpment the lowland of Aragon on the north. The southern edge of the Meseta is bordered by a range known as the Sierra Morena, which falls off into the fertile lowlands of Andalusia. The surface of the Massive is generally level or undulating, although mountain ridges (particularly the Sierra Guadarrama) run from east to west across it, their crest lines averaging 5,000 to 6,000 feet above the sea. The Sierra Guadarrama separates Old Castile on the north from New Castile on the south, high and fairly productive plains formed by recent sedimentary deposits laid down in broad, shallow depressions on the surface of the Meseta. Madrid lies in New Castile, not far south and well within sight of the Sierra Guadarrama. Owing to its altitude the Meseta is a bleak land; some grain is cultivated, although the region is mostly given over to sheep raising. Medieval Spanish and Portuguese history is largely the record of the struggles of the rulers of the northern and north-western part of the Massive, the kings of Leon and Castile and Portugal, driving the Moorish invaders not

only from their uplands but from the entire peninsula.

The Hungarian lowland, the most extensive in the Alpine-Mediterranean Region, is almost completely encircled by ranges of young folded mountains: on the northeast and southeast by the sweeping semicircle of the Carpathians, on the west and southwest by the eastern Alps and Dinaric ranges. The middle Danube enters the lowland from the northwest through the gap near which stands Vienna, leaving it on the southeast to cut across the Carpathians in a deep gorge, the Iron Gate. The larger part of the lowland constitutes the Hungarian plain, far out into the northwestern edge of which runs an offshoot of the Carpathian folds, dividing the plain into two unequal parts. Through this offshoot the Danube has eroded its channel. The twin cities of Buda and Pest, the capital of Hungary, stand on the west and east sides of the river respectively just south of the point where it emerges upon the Alföld, or larger, southeastern portion of the plain. The plain as a whole has been developed upon sedimentary deposits laid down upon the floor of an ancient sea. Along the middle and lower course of the River Tisza, a northern tributary of the Danube, is a region of semi-arid grasslands, not unlike the vaster steppes of southern Russia. Farther east rises a rugged block of low mountains (Bihar) between which and the bow formed by the southern Carpathians the eastward continuation of the marine beds that underlie the Hungarian plain has been uplifted and dissected to produce the hills of Transylvania.

On account of its structural relations we have included this lowland within the Alpine-Mediterranean Region, although in climate and vegetation it lies beyond the zone of Mediterranean influences, belonging, rather, with northern and eastern Europe. It has also

been detached from the main historical currents that have lent unity to the Mediterranean lands as a whole. Although the boundary of the Roman Empire followed the Danube except during the temporary occupation of Dacia (modern Rumania) in the second and third centuries of our era, even the southern and western parts of the lowland were never thoroughly Romanized. In the ninth century the plain was seized by the Magyars (Hungarians), a wild Hunnish folk related to the hordes of Attila who despoiled Italy in the fifth century and had come from the similar but broader open plains far to the east. The Magyars established the Kingdom of Hungary. Except during the period of Turkish rule (sixteenth and seventeenth centuries) the boundaries of this kingdom corresponded approximately with those of the lowland as a whole. But, although subjected to Hungarian domination, all the peoples of the plain were not Magyars, and with the break-up of the Austro-Hungarian Empire at the close of the World War the outer borders of the lowland were separated from the Hungarian core. The southeastern uplands went to Rumania; the Dinaric ranges and southwestern fringes to Yugoslavia; the northern Carpathians, together with the segment of the northwestern part of the plain lying north of the Danube, to Czechoslovakia.

THE HIGHER MOUNTAINS OF THE ALPINE-MEDITERRANEAN REGION

The mountain ranges of the Alpine-Mediterranean Region are like worlds apart. Everywhere bold and impressive, the higher peaks have been subjected to glacial erosion, which has sculptured out rugged and serrated summits and crest lines. In the Alps, Cauca-

sus, and Pyrenees glaciers and perpetual snowfields occupy broad areas, and even on the lower ranges snow appears in the autumn, lingering until late spring or early summer. In the central and eastern Alps during the close of the last glacial epoch ice filled all the main valleys and extended far out upon the plains to the north and south. Where the valleys were overdeepened by glacial scouring or where streams were dammed by glacial deposits, lakes were formed. We thus find nestling in the foothills of the Alps many bodies of water of considerable size and extreme beauty, and the flat floors of former lakes, now lush meadow lands, reach far back among the mountains. Where the glaciers were not developed on such a grand scale, as in the Pyrenees, the Atlas, and the Caucasus, the valleys are often narrower and more difficult to penetrate and the mountains less readily accessible.

In their relation to the historical development of Europe these systems of folded mountains may be considered from two points of view: (1) as barriers, and (2) as geographical regions in themselves.

Every great belt of mountainous country constitutes a serious obstacle to communication. How serious this obstacle may be depends less upon the absolute height of the summits than upon the topography of the mountain region as a whole. For instance, the Alps, though considerably higher than the Pyrenees, are not as much of a barrier because of their many glaciated, and, therefore, broad-floored, transverse valleys and their numerous passes. The crest line of the Pyrenees, on the other hand, extends like a mighty wall from the Mediterranean to the Atlantic. The Dinaric ranges, though not lofty, owing to the extensive development of a special type of limestone topography interpose a terrible obstacle between the Adriatic coast and the

lowland of Hungary. Mountains, thus, tend to separate and hold apart groups of men. In Europe frontiers of language, religion, and nationality frequently follow mountain ranges. The Alps were long the frontier of the Roman Empire; they now separate France, Germany, and Austria from Italy; the Pyrenees separate France from Spain. The northern Carpathians mark the frontier between Czechoslovakia and Poland.

Besides constituting physical obstacles to communications, mountains through their influence upon climate may tend indirectly to accentuate the differences between groups of men living on opposite sides. As one passes across the Pyrenees from the rainy lowlands of southwestern France into the dry plateaus of northern Spain, cut off by the mountain wall from the moist winds from over the Atlantic, one goes from a land of farms to a land of shepherds.

It would be a mistake, however, to think of mountain systems exclusively as barriers. A mountain range is not like a fence. As may be seen from Plate I it forms, rather, a wide zone of country. The Alps vary from 65 to 135 miles in width, the Carpathians from 60 to 75 miles, the Pyrenees in places are 70 and the Caucasus 125 miles wide. A mountain system is thus in itself a geographical region capable of fostering fairly uniform conditions of human life. Mountaineers are often tenacious in preserving their individuality and sometimes—though not always, by any means—owing partly to the protection afforded by the topography of their country, have been able to maintain partial political independence. As examples, we may cite the history of the independent republic of Andorra in the Pyrenees, the Swiss Confederation in the Alps, the long-continued independence or semi-independence

of the Balkan and Caucasian mountaineers, and the recent gallant struggle of the Riffians in northern Morocco. Occasionally—although this is exceptional—mountain people have been able to dominate politically the neighboring lowlands, as in the case of the counts of Savoy, who gained control of Piedmont (the upper Po valley) in the eleventh century. In the southern Carpathians and Transylvanian Alps is the nucleus of the Rumanian nation, which now is master of the plains on either side of the range.

Like the old massives, the mountains of the Alpine-Mediterranean Region possess many common characteristics. Owing to the difficulty of communications and to the paucity of good level ground for farming none of these mountain regions has ever supported a dense population. Their economic resources until recently have consisted almost exclusively in mineral wealth, forests, and pasturage. On the high pastures of the Alps cattle are raised, even up to the limits of the snowfields, and millions of sheep and goats browse over the bare brown slopes of Spain, Italy, the Balkans, Asia Minor, and North Africa. Within the last few decades a great transformation has been taking place in some of the mountains of central and southern Europe; manufacturing industries are seeking their waterpower, and, with the development of hydro-electric stations, the power furnished by the mountain streams is being transmitted far out upon the adjacent plains.

Although the mountain ranges themselves have not promoted the growth of highly complex and refined civilizations, it should be noted that among the foothills and along the fringes of the great ranges and in their larger valleys, conditions have often been extremely favorable. The city states of Greece developed on narrow plains enclosed by mountain ridges and the sea.

The foothills of the Apennines overlook the plain of Rome. Granada, long the Moorish capital in Spain, stands on the edge of a rich plain under the snowy crests of the Sierra Nevada (Betic Cordillera). On the flat, former lake-floor valleys of the Alps there are many towns of old and distinguished culture, such as Innsbruck.

CHAPTER III

NORTHERN EUROPE

PHYSIOGRAPHY AND CLIMATE OF NORTHEASTERN EUROPE

In pronounced contrast with the prevailing diversity of the Alpine-Mediterranean Region in landscape, climate, and human life is the endless monotony of the plains of Northeastern Europe. From the eastern frontiers of Germany to the low Ural ridges and from the Black Sea to the Arctic coast the only physiographic features of any magnitude that break the uniform immensity of the plains are lakes and marshes to the north and northwest, mighty rivers, and a series of low, generally eastward-facing escarpments that run across southwestern Russia and southern Poland.

Just as the plains of northern Germany grade imperceptibly into the broader plains of Poland and Russia, so the oceanic climate of Northwestern Europe merges very gradually into the continental climate of Northeastern Europe. Characterized by extremes of heat and cold and by increasing aridity as one goes east and southeast, the wide zone of continental climate overlaps far within the limits of the physiographic areas of Northeastern Europe and the Alpine-Mediterranean Region, including, as we have seen, the entire Carpathians and the plain of Hungary as well as eastern and central Germany. Indeed, except for scattered localities sheltered by mountains on the north, as, for example, the south coast of the Crimea, all the shores of the Black Sea have climate of the continental type. The traveler passing through the

Bosporus leaves the warm Ægean behind him and enters a sterner northern world. Here was a region where the ancient Greeks came in contact with a wholly different atmosphere from that of their native country, and it was this that gave to the Black Sea its evil reputation in ancient times.

Our climate in central and eastern North America is typically continental, not unlike that of central and eastern Europe. In Europe, however, the storms sweeping in from the west over the Atlantic lose much of their force by the time they have reached the plains of Russia. As a consequence, the greater part of the precipitation in eastern Europe falls in the form of summer rains produced by local thunder showers. The summers are hot, often intensely so. The winters are cold with long periods of clear, sparkling weather; like the heat of summer the cold of winter becomes greater the farther east one travels, until on the steppes and in the forests of Russia it is as severe as in our north-central states. Napoleon's army in the campaign of 1812 suffered from intense and unaccustomed summer heat on its march to Moscow; the terrible Russian winter quite as much as the Russian army enforced its desperate and calamitous retreat.

FOREST AND STEPPE IN RUSSIAN HISTORY

The northwestern part of the great area of continental climate in Europe receives more precipitation than the southeastern part. This, combined with different conditions of soil, promotes the growth of forests in the northwest, whereas in the southeast spread the open, treeless steppes. The edge of the forest is the most significant geographical frontier within Northeastern Europe. Into the great woods

the Russians of the Middle Ages sought escape from the hordes of wild horsemen from the heart of Asia who swept over the steppes. Here, about Moscow, where the relative seclusion of a woodland country offered a refuge not easy for the riders of the plains to penetrate, the Russian nation had its beginnings. A long and bloody chapter in the history of North-eastern Europe is that which chronicles the wars between Poles and Russians on the one hand and the squint-eyed, barbaric, Moslem Tatars of the treeless plains. In certain respects these wars may be compared with the Indian campaigns of our Great Plains, except that the Tatars, under their Turkish overlords, were far more formidable foes than our Indians. Gradually, however, they were brought under Russian rule, until by the time of Catherine II (1762-1796) the Russian frontier had finally reached the Black Sea.

The southward sweep of Russian military conquest was followed in the nineteenth century by the Russian farmers' peaceful conquest of the steppe; a movement of greater significance in its relation to world history than any of the military campaigns that had prepared the way for it. Through southeastern Russia there extends far east into Siberia a broad band of dark rich soil, constituting one of the most magnificent agricultural zones in the world. Until relatively recently the possibilities of this Black Earth Belt were not understood. At about the same time, however, that the exploitation of the prairies was found to be practicable in North America, it was discovered that extensive farming could be conducted on the not dissimilar soils of Russia, the Argentine, and other semi-arid plains. This discovery meant a great revolution in agriculture. Farming hitherto had generally been practiced

on a limited scale to support local populations. The opening-up of the Black Earth Belt and other tracts of the same sort made possible the export of immense surplus stocks of grain to feed the growing populations of the lands where that profound transformation known as the Industrial Revolution was taking place.

WESTWARD EXPANSION OF RUSSIA

From the medieval nucleus in the neighborhood of Moscow the Russians have pushed out in all directions: not only south and southeast, but north to the Arctic, east over Siberia to the Pacific, where outposts were established on the foggy coast of Bering Sea in the late seventeenth century, and westward. We are concerned here with the westward movement only. This movement carried the tide of Russian conquest across the great cultural frontier of which we have spoken (above, p. 49) as dividing Northeastern from Northwestern Europe and into areas that have been affected by civilizing influences radiating from Rome. We suggested that this frontier has served both to separate kindred peoples and to intensify the original differences between peoples of different linguistic and racial groups. Like the Russians the Poles are a Slavic folk who speak a Slavic tongue. On the other hand, Rome has given them their religion, Roman Catholicism, and their alphabet. Although they fought long with Turk and Tatar on the southern steppes, they were never subjected to the Asiatic influences which, combined with those of Byzantium, have lent a more Oriental aspect to the culture of their Russian cousins. North of the Poles along the Baltic shores are a group of non-Slavic folk whose languages either bear no relation whatever to Russian or are only very distantly

connected with it: Lithuanians, Letts, and Esthonians to the south, and Finns to the north of the Gulf of Finland. These people, like the Poles, were brought within the Roman Catholic communion in the Middle Ages, although all but the Lithuanians went over to Protestantism at the time of the Reformation. German influence has been very powerful south of the Gulf of Finland; German colonies were established here in the early medieval period and Germans have formed the aristocracy. In Finland the Swedes have played an equally important part in the shaping of Finnish culture.

These lands were brought under the domination of the Russian czars, Esthonia and Livonia at the time of Peter the Great (1682-1725), the greater part of Poland, with Lithuania and Courland, in the late eighteenth and early nineteenth centuries, and Finland in 1809. Inevitably, however, the conquered people were restive under the Russians, whom they regarded as hated alien oppressors. Availing themselves of the first favorable opportunity, which came with the Russian revolution of 1917, they threw off the Muscovite yoke and established themselves as independent nations: Poland, Lithuania, Latvia (Livonia and Courland), Esthonia, and Finland. It is a striking fact that all the lands that have thus broken away from Russia lie, broadly speaking, west of the great cultural frontier.

THE RIVERS OF RUSSIA AND RUSSIAN UNITY

Why have the Muscovites been able to conquer and hold the immense tract that constitutes Northeastern Europe? The rivers of Russia give us a partial answer to this question. Offering a magnificent system of

natural communications in a land of poor roads, the rivers are the "allies of the Russians against what they call 'their greatest enemy'—space."¹ The streams flowing southward into the Black and Caspian Seas link the forest country with the steppes; those that flow northward to the Baltic, the White Sea, and the Arctic provide waterways in summer and sledgeways in winter through the otherwise impenetrable forest wilderness.

Three mighty Russian river systems have occupied a position of exceptional historical importance. Their headwaters lie not far apart on a region to the northwest of Moscow that stands somewhat higher than the general level of the plains. From here the Dnieper sweeps south to the Black Sea, the Volga flows first east and then south to the Caspian, and the Volkhof makes its way north to Lake Ladoga, the waters of which are carried to the Gulf of Finland through the short but wide, swift, and deep-flowing Neva. By way of the Dnieper Greek influences penetrated Russia during the early centuries of the Middle Ages; on its mid-course stood Kief, the capital and principal center of Russian civilization before the rise of Moscow. By the Neva, Volkhof, and Dnieper Norse Varangians in the tenth century made their way from Sweden even to Constantinople, where they served in the Emperor's bodyguard. But "the Dnieper, which made the greatness of Kief hastened its decay. As a medium of communication it was imperfect. The celebrated cataracts or rapids below Kief formed an insurmountable barrier to navigation, and consequently the city could not remain the political and commercial capital of Rus-

¹ Alfred Rambaud, *History of Russia from the Earliest Times to 1880*, translated from the French by L. B. Lang, Boston, 1879, Vol. I, p. 24.

sia.”² It was destined for the Volga, the longest stream of Europe, with its tributaries, the Oka and the Kama, to become and to remain the supreme waterway of Russia. The Volga, which Rambaud likens to the Mississippi, forms a superb avenue through the very heart of the country and with the Kama furnishes a direct route toward Asia. Along the Volga’s course are found some of the principal Russian cities: Kostroma, Nijni-Novgorod, Kazan, and Samara, and Astrakhan near the Caspian Sea. “It seems as if the whole life of Russia were concentrated on the Volga.” “From the day that the Grand Princes established their capital on the Moscova, a tributary of the Oka and sub-tributary of the Volga, Russia turned to the east, and began its struggle with the Turks and Tatars. The Dnieper made Russia Byzantine, the Volga made it Asiatic: it was for the Neva to make it European.”³ By establishing his capital at the mouth of the Neva, where Russia looks out upon the Baltic, Peter the Great deliberately aimed at establishing contact with central and western Europe.

In sum, these rivers, together with the Dniester, the two Dvinas, the Don, and the Pechora, have served the Russians much as the Mediterranean served the Romans or as the oceans have served the British. They have provided roots of intercommunication binding together into a firmly knit empire peoples scattered far and wide over an immense expanse of territory.

PHYSIOGRAPHY OF NORTHWESTERN EUROPE

A glance at the map shows that Northwestern Europe falls naturally into three fundamental divisions.

² Rambaud, *op. cit.*, p. 26.

³ *Ibid.*, pp. 27-28.

Shallow seas separate the continental mass from the insular group of Great Britain and Ireland and from the peninsula of Scandinavia. Each of these fundamental divisions, in turn, may be split into lesser physiographic regions. Although the latter are of many different types, for the sake of simplicity they may be classified under two heads: lowlands and massives. We have explained that the massives are in the main worn-down stumps of very ancient mountain ranges. Although for the most part little more than tracts of hill country, in some places they assume a rugged, mountainous character. The highlands of central France, Wales, Scotland, and Norway have always interposed serious obstacles to communication and have supported sparse populations.

Within the continental mass of Europe five principal massives and certain lesser uplands rise above the general level of the lowlands that spread from Russia to the Bay of Biscay. Three of these, the Massif Central of France, the Vosges-Black Forest Massive, and the Bohemian Massive, lie to the south, separated from the Pyrenees, Alps, and Carpathian ranges by narrow strips of lowland. The Armorican Massive fills the northwestern corner of France. North of the Vosges-Black Forest Massive stands the Ardennes-Rhine Massive, and between the latter and the Bohemian Massive clusters a group of small uplands in central Germany. The Vosges-Black Forest Massive was once a continuous block. It has been cleft in two, however, by the collapse of the central portion, forming a rift valley that is continued northward along the eastern side of the Ardennes-Rhine Massive. Through part of this rift the middle Rhine makes its way.

In Great Britain there are three principal massives.

These lie to the west and north of the plain of south-eastern England: the Cornish-Devonian Massive in the southwestern promontory of England; the Welsh Massive, which corresponds to the peninsula of Wales; and the Scottish Massive, occupying the whole of Scotland and overlapping into northern England. The Lowlands of Scotland, which constitute a rift valley not unlike that of the Rhine, cut through the southern part of the Scottish Massive, separating the Highlands from the Southern Upland. From the Southern Upland a long tongue of elevated ground known as the Pennine arch runs south between two prongs of the English plain which separate it from the coasts of the North and Irish Seas.

The Scandinavian peninsula consists of one great massive (the Northern Massive) that has been tilted up on the west and dissected by streams and glaciers. From the sea its edge appears as a range of lofty mountains, but eastward from the crestline the surface falls away gradually into a rough land of forests and lakes not unlike northeastern Canada.

The lowlands separating the massives from one another are far from uniformly flat and monotonous. The details of their relief, although insignificant when compared with those of the mountains and massives, are often of the utmost importance from the human point of view. These lowlands have been the scene of the most important events and movements of Western life. Indeed, European history is essentially the history of the plains, on which have arisen the main centers of agriculture and industry, the capitals of the greatest nations, and the largest cities.

CLIMATE AND AGRICULTURE OF NORTHWESTERN
EUROPE

The climate of Northwestern Europe, where oceanic influences prevail, is one of the few strictly temperate climates anywhere on the earth's surface. The winters are mild, with much rain, mist, and cloud, but little frost or snow, except in the hills. The summers are cool as compared with those of eastern North America; although the sun may shine, it lacks the intensity of the Mediterranean summer sun and the air is rarely very clear.

This climate favors the growth of plants. Most of Northwestern Europe in prehistoric times, and even as late as the classical period, was forested with pines, spruce, and other coniferous trees toward the north and on higher ground, and with hard woods where conditions were somewhat milder. On the hills of Ireland and in the western highlands and isles of Scotland, however, an excess of moisture is hostile to tree growth and promotes, instead, the development of bogs and moorland.

Since ancient times the forests of Northwestern Europe have been cleared to a very considerable extent. During the early Middle Ages large parts of France, Germany, and Great Britain were pioneer communities: frontier zones where civilization was advancing into the backwoods, as in the eastern North America of the seventeenth to the early nineteenth centuries. The medieval monasteries were not merely centers of learning and the ascetic life; the monks were leaders in the work of cutting down trees, removing stumps, draining swamps, and preparing the fields that have supported later generations. And there still remain forests of great value in Northwestern

Europe. These clothe not only the hillsides of the massives of France, Germany, and Bohemia, but in the lowlands spread over sandy or clayey ground otherwise unsuited to field agriculture. Northern Sweden is an immense forest wilderness whence pulpwood is to-day exported even to the United States. Before the modern age of factories, fish from the shallow seas and forest products were the main staples that Northwestern Europe had to offer in exchange for the manufactures and luxuries of the Mediterranean World and the Orient.

Owing to the difference in climate, the crops raised, as well as the entire method of agriculture, in northern Europe are essentially unlike those of the Mediterranean. Here, instead of summer being the dormant season for plant growth, it is winter when the fields lie untouched. Irrigation is unnecessary, the most serious problem frequently being that of draining away surplus water. The principal field crops are wheat in France and England, and oats in northern Great Britain; maize (Indian corn) is also raised in southern France; the principal orchard crop is apples. The grapevine is grown throughout much of central and southern France and southern Germany. Where there is rich meadowland the dairy industry flourishes (Denmark).

LANGUAGES OF NORTHWESTERN EUROPE

On the basis of language we may divide the peoples of Northwestern Europe into four main groups: the Celtic, the Romance, the Teutonic, and the Slavic (Fig. 3). The different languages used by these groups are all related to each other, as they are to the Romance languages of the Mediterranean region (Spanish, Portuguese, Italian, and Rumanian), as well



FIG. 3

Linguistic regions of Europe, together with (a) religious boundary (heavy black line) separating areas of the Greek Orthodox church on the east from those of Roman Catholicism and Protestantism on the west, and (b) boundary (heavy dotted line) separating areas to the east in which the Greek and Cyrillic alphabets are used from areas to the west in which the Latin alphabet is used. These two boundaries mark the cultural frontier between Eastern and Western Europe and, where they depart from one another, illustrate graphically the transitional nature of much of this frontier zone. Language areas: A-G—INDO-EUROPEAN LANGUAGES; A—TEUTONIC LANGUAGES (1: English; 2: German; 3: Dutch; 4: Flemish; 5: Danish; 6: Norwegian; 7: Swedish; 8: Icelandic); B—ROMANCE LANGUAGES (9: French; 10: Spanish; 11: Portuguese; 12: Galician; 13: Catalan; 14: Italian; 15: Rumanian); C—CELTIC LANGUAGES (16: Gaelic; 17: Irish; 18: Welsh; 19: Breton); D—SLAVIC LANGUAGES (20: Polish; 21: Czech; 22: Slovak; 23: Russian; 24: Slovene; 25: Serbo-Croat; 26: Bulgarian); E (27)—GREEK; F—BAL TIC LANGUAGES (28: Lettish; 29: Lithuanian); G (30)—ALBANIAN; H—NON-INDO-EUROPEAN LANGUAGES (31: Basque; 32: Magyar, or Hungarian; 33: Turkish; 34: Lapp; 35: Finnish; 36: Estonian). Linguistic areas and religious frontier generalized from *Andrees allgemeiner Handatlas*, Plates 31, 32; alphabetic frontier based on map by Paul Langhans in *Petermanns Geographische Mittheilungen*, Vol. 63, 1917, Plate I.

It is suggested that the student correlate the linguistic areas and cultural boundaries shown on this map with the physiographic regions indicated on Plate I at the end of the text and also with political boundaries at different dates as shown on the maps in an historical atlas.

as to Greek, Persian, and Hindustani of India, within the great family of Indo-European speech. There are only a few languages of Europe that do not belong to this family.

In Roman times Celtic languages were spoken over a much more extended area than at present, an area which presumably included all of the British Isles, Gaul, and northern Italy. French is the only Romance tongue of Northwestern Europe. The mountain barrier that intervenes between the Mediterranean World and Northwestern Europe is broken by a gap about two hundred miles wide between the Pyrenees and the Alps. Here Northwestern Europe meets the waters of the Mediterranean along the southern coast of France. Through this gap Roman legions and colonists marched into Gaul, following easy routes northward up the trench of the Rhone valley between the Massif Central and the Western Alps and northwestward by way of the passage between the Massif Central and the Pyrenees. The Latin tongue and, with it, the Roman law and many other elements of Latin civilization were carried from the Mediterranean to the English channel and eastward nearly to the Rhine. Through the amalgamation of Latin with Celtic and Teutonic elements the French language and the French nation emerged during the Middle Ages. Latin influence, however, was predominant, and France is the one great so-called "Latin" nation of northern Europe.

The area over which the Teutonic languages are spoken has been greatly enlarged since antiquity. In the British Isles English, a Teutonic tongue into which many French words were injected after the Norman conquest, has pushed back the area of Celtic speech, which is now restricted to the remote glens and isles of Wales, Ireland, and Scotland. To the east peoples

of Slavic speech have been gradually pressed eastward on the plains, although the Czechs and other Slavic folk have maintained their ground in the interior of the Bohemian Massive and in the northern Carpathians. The principal subdivisions of the great tract of Teutonic speech show a certain measure of adjustment to the configuration of the land: English is the dominant language of the British Isles; the Scandinavian languages correspond to the larger northern Scandinavian peninsula of Norway and Sweden and the smaller but no less well-defined peninsula of Jutland and its neighboring islands that block the entrance of the Baltic Sea; Dutch and Flemish are the tongues of the delta of the Rhine and adjacent maritime plain. Furthermore, the area of German speech falls into two dialectic regions that may be broadly correlated with the main physiographic regions of Germany. The peoples of the north German plain speak in a harsh and guttural manner that is very different from that of the smoother-tongued folk of the upper Rhine and upper Danube basins.

Nor is this dialectic difference the only element that differentiates north Germans from south Germans. Rome brought under her sway a broad belt of country north of the Alps, but was never able to conquer the forested plain of northern Germany. Latin influences in the early centuries of our era, closer contacts with the Mediterranean World and with France ever since, and, possibly, a milder climate have given an individual stamp to the south German. The difference is apparent even to the casual traveler in the easy-going and pleasure-loving Bavarian or Austrian as contrasted with the stern, militaristic, efficient Prussian. Although South Germany and Austria remained loyal to Roman Catholicism at the time of the Refor-

mation and have remained Catholic ever since, north Germany split away to Lutheranism. In political life, also, north and south Germany have stood more or less separate. The so-called "Holy Roman Empire of the German Nation," a loose union of Germany and some of the neighboring regions that lasted from 800 to 1806, was hardly more than an empire in name. In the nineteenth and twentieth centuries German-speaking Austria has been politically independent. While dominated by Prussia, Bavaria and the other south German states have maintained their local governments and have frequently manifested marked hostility to their Prussian masters.

NATIONAL AND POLITICAL FRONTIERS ⁴

On the whole the linguistic frontiers of Europe correspond with the national frontiers. By national frontiers we do not mean political boundary lines between kingdoms or republics. A nation is not the same as a state, but may be defined as a group of people having certain common interests, ideals, and ambitions, and animated by patriotic devotion to a motherland or "country." Nationalism, or intense loyalty to one's "country," as distinguished from loyalty to one's city, or one's king, or one's faith, has been peculiarly the growth of the nineteenth and twentieth centuries.

There are some firmly knit nations in Europe, such as Belgium and Switzerland, which comprise more than one linguistic group. French is the language of western, German of northern, Switzerland, and Italian

⁴ In reading this section the student should carefully compare Fig. 3 both with Plate I showing the physiography and with political maps of Europe before and after the World War.

of some of the valleys on the south side of the Alps, but all the peoples of the republic are patriotic Swiss. The Swiss state gives expression to their national sentiment and the national frontiers of Switzerland, like those of the United States, coincide with her political boundary lines.

This happy condition, however, is far from universal. There are states in Europe that have been and now are regarded as hated masters by some of the people within their limits. The vices of nationalism are jealousy, suspicion, and greed. Only too often these have led a strong state to annex some of the territory of a weaker neighbor. The people of the weaker state continue to regard the annexed territory as rightfully theirs and the inhabitants of this territory as still belonging to their dismembered nation. The national frontier no longer coincides with the political frontier. The victorious state endeavors to stamp out the love and loyalty that its new subjects feel for the state from which they have been detached. Fearing that, as long as they continue to use their national language, the sympathies of the peoples of the annexed region will remain with their fellow-countrymen beyond the political boundary, the victor tries to suppress this tongue. He forbids the teaching of it in the schools, its use on the stage, its display on signs. He even changes the place names. Moreover, he compels the young men to serve in his army and tries to force the subject people to trade with him by erecting tariff barriers and by placing other restrictions on the free flow of commerce across the border.

Frequently he is partially successful in all this. Some of the young folk may forget their former speech and ties of sentiment. Propaganda and self-interest combine to convert them into devoted citizens of the

state that has conquered their homes. Others, however, cling to the original loyalty and strive to bring about reunion with the motherland. But, if this is finally accomplished, the restoration of the earlier boundary may be fully as disastrous to a large element in the population as the preceding change had been.

It follows, therefore, that alterations in the political frontier between two chronically hostile states almost inevitably lead to the emergence of a zone of divided allegiance, political intrigue, bitter hatreds, and smoldering passions. The most notorious zone of this sort lies between France and Germany, but similar zones separate Germany from Denmark, Italy from Austria and from Yugoslavia, Rumania from Hungary, Bulgaria from Yugoslavia and from Greece, and Russia from Poland. These are the danger zones of Europe, the breeding grounds of war.

GEOGRAPHY OF THE INDUSTRIAL REVOLUTION

The intensive growth of nationalism is closely related to and has, indeed, to a considerable degree, been intensified by a profound transformation in the economic life of all civilized countries that has taken place during the last one hundred and fifty years. This transformation, known as the Industrial Revolution, has been particularly marked in the United States and in Northwestern Europe, especially in Great Britain, Germany, Belgium, and France. Something must be said of the geographical background of the Industrial Revolution and of certain geographical results that have flowed from it.

We may illustrate graphically what we mean by the Industrial Revolution by describing some of the changes that it has wrought in the aspect of the land-

scape. Let us imagine that on a fair day in the middle of the eighteenth century we are floating in a balloon above one of the many districts of Northwestern Europe subsequently to be affected by this great movement. As on a map we see spread below us a checkerboard of cultivated fields, fallow lands, and pastures: here stands a manor house amidst its lawns and orchards, there the clustered cottages of a village; ribbon-like farm roads wind between the fields, and a main highway cuts a wide, straight swath across country. Woodland covers fairly broad areas; we see the glint of a stream through the trees. If we are over northern England brown heaths and moors open beneath us. Occasionally we pass a larger town with its market place, city hall, and cathedral. Through the clear air we see the pattern of the narrow, crooked streets and of the encircling line of fortification walls. Except for straggling houses along some of the highways outside the gates, fields and orchards come up to the very walls.

Let us now fly over the same area in an airplane at the present day. Below us fields and farms and woods present much the same checkerboard as before; the old pattern of the roads has not been greatly altered and the manor is still standing. But there are new elements in the scene: the dark curving line of a railway, the blue water of a canal; piles of ore, large gray structures, long rows of brick dwellings, and a network of new roads: these mark the position of a group of coal mines. The stream in the woodland has been dammed, creating a reservoir. The town has expanded almost beyond recognition. The air over it has become so murky from the smoke of chimneys that we must fly at a lower level to discern clearly the layout of the streets. We find that the walls have been torn

down, giving place to a system of avenues or parks. Beyond these spreads a broad belt of thickly built-up streets forming rectangular or other geometrical patterns; farther out are suburbs with detached villas, factories, railway yards, gas works, and warehouses, extending far away into what was previously open country. If we continue our flight we discover that wholly new cities have sprung into being in farming country, heath, and forest. Winging our way along the seacoast, we find that many a small fishing settlement has become a seaport and along many a once-deserted sand beach lines of cottages and hotels have appeared.

Similar changes in the landscape have occurred in other parts of the European Area than the industrial zones of Northwestern Europe, but nowhere else have they been anywhere nearly so extensive. Elsewhere, railways have been built, cities have increased in size, mines and factories have been established, but on the whole the open country looks now much as it has looked for centuries.

NEW PROBLEMS CREATED BY THE INDUSTRIAL REVOLUTION

These transformations are but the outward expression of changes that the Industrial Revolution has effected in the entire texture of modern life. As a result of the growth of manufacturing, transportation, and their associated industries, the majority of the people in Northwestern Europe now live in a vastly different manner from that of a century or a century and a half ago. Political, social, economic, and intellectual problems undreamed of in earlier ages have arisen to perplex thoughtful men. The effects of the

Industrial Revolution have not been confined to the areas of industrial development or to the individuals directly engaged in manufacturing and commercial pursuits. To provide raw materials for the factories of Northwestern Europe negroes labor in the cotton fields of our southern states, Indians work in the mines of the high Andes, herdsmen tend sheep on the broad steppes of Australia. To feed the great populations that the Industrial Revolution has brought into being, farmers cultivate wheat on the open plains of Canada and Russia and cowboys round up steers on the Argentine pampa. In exchange for raw materials and foodstuffs the manufactured products of Europe are shipped to all corners of the world. The very life of large parts of Europe depends on the maintenance of trade with lands beyond the seas. The colonial expansion of the European nations to a very large extent has been stimulated by a desire to obtain overseas markets for their factory-made goods. It has been aptly said that the wares and the trade of the British nation needed the British Empire "and, needing it, have created it."⁵ As a result of the disproportionate growth of her industrial population, it has been estimated that the agriculture of Great Britain can support only a small proportion of the people and that in the event of a complete blockade by a hostile navy starvation would be imminent in a few weeks.

In so far as they involve the relations in space of groups of men, these wholly new conditions created by the Industrial Revolution may be better understood with the aid of geography. For instance, the World War was precipitated by the clash of German and Austrian political and commercial interests with those

⁵ Mark Jefferson, "British Cities and the Empire," *Geog. Rev.*, Vol. IV, 1917, p. 390.

of Russia in the Balkan Peninsula. Some of the reasons for this clash are to be sought in the facts of Balkan geography, the distribution of raw materials and markets, the routes of systems of transportation, the position of strategic points. Similarly, many of the political and social problems within each of the European nations may also be conceived in terms of geography. For example, political parties in England and Germany have reflected regional antagonisms between the peoples of industrial and those of agricultural zones. Not only have the conditions created by the Industrial Revolution shown an adjustment to geographical circumstances, but the whole course of this great economic and social transformation in many of its most important aspects has been governed by certain fundamental facts of physical geography.

COAL, AND URBAN INDUSTRIAL DEVELOPMENT

Before the invention of the steam engine manufacturing was done almost exclusively with hand tools. The output of a handicraftsman was insignificant when compared with that of a modern factory toiler who operates a machine. Since the handicraftsmen worked in their own homes, usually supplying the necessary power with their own muscles, manufacturing was less closely bound by geographical conditions than in the present age. A workshop might be established wherever skilled labor was available and raw materials could be obtained. Questions of mechanical power hardly entered into consideration.

Nowadays, the question of accessibility to the sources of mechanical power largely determines the location of manufacturing enterprise. Modern industry is based upon the use of coal and to a less de-

gree on "white coal," or waterpower. Coal is necessary in the making of iron and steel and for the operation of the machines in factories. Since coal is bulky and expensive to transport, it is usually easier to bring the raw materials that are to be converted into manufactured articles to the vicinity of the mines than vice versa. As a consequence many of the great manufacturing centers, particularly those of Germany, England, and Belgium, cluster near the coal fields. "Of Britain's 40 great cities 27 stand on the coal," 67 per cent of the total. Eleven of Germany's 47 cities of 100,000 are on coal beds.⁶

It is a very important fact that there is almost no coal at all in the Alpine-Mediterranean Region. This circumstance, perhaps no less than the reorientation of the world's trade routes to the Atlantic which followed the discovery of America and the sea route to the Indies, helps explain why the Mediterranean countries have not experienced the tremendous industrial development and the growth of huge cities so characteristic of Northwestern Europe.

Coal beds are the carbonized remains of forests that grew far back in geological times during the long era between the earlier periods of mountain building and the beginning of the period which produced the Alps and Mediterranean. The coal deposits over wide areas have been so deeply buried beneath later sedimentary formations that they now lie too far below the surface to be accessible. Along the margins of some of the worn-down massives of northern Europe, however, the coal measures outcrop or are found at no great depth beneath the surface. Along the edges of the massives, therefore, coal is readily mined and here great industrial centers have grown up.

⁶ Jefferson, *loc. cit.*

Southeastern England is a lowland from which two prongs run out far to the north on either side of the Pennine arch of upland. In these prongs, and particularly around the southern edges of the Pennine arch, are some of the largest coal fields of Britain. Here the intensive development of British manufacturing has taken place. The English plain southeast of a line drawn from near Hull to the head of the Bristol channel is agricultural England. Northwest of this line is industrial England. From the historical point of view this diagonal line is of supreme interest. In Roman times it separated a settled farming country from a frontier zone roamed over by barbaric tribes held in check by military outposts. Down to the beginning of the age of steam and factories, the most densely peopled, most prosperous, and politically the dominant portion of England lay to the southeast of this line. Northwest of it was a remote country with only a sprinkling of people. Now, however, it is in the northwestern region that the largest cities of Great Britain (excepting London) are to be found. This is the Britain of mines and factories, of huge smoky cities, of intense labor troubles. Southeast is the traditional England of quiet country villages, cathedral towns, squires, and fox-hunting, the England of Chaucer and Shakespeare.

The cleavage between agricultural and industrial England has been reflected in election returns and hence in the composition of the British parliament during the last forty years. The industrial regions have tended consistently to return Liberal or Labor members, whereas the rich agricultural regions of the south have in general been represented by Conservatives. "Poor agricultural regions," on the other hand,

where conditions are relatively hard, usually "show a preference for Liberal candidates." ⁷

On the continent, the most productive coal fields are those which border the northern edge of the Ardennes-Rhine Massive. Here two great clusters of towns have arisen, one lying astride the Franco-Belgian frontier, the other, the famous Ruhr district, in Germany just east of the Rhine. At the outset of the World War in 1914 Germany gained control of the Belgian and main French coal fields and associated manufacturing regions by a swift initial blow, thereby paralyzing the industrial strength of the Allies at one of its most critical points. When France wished to compel German observation of the terms of the Treaty of Versailles in 1923 she sent her troops into the Ruhr.

NATURAL LINES OF COMMUNICATION, COMMERCE, AND THE INDUSTRIAL REVOLUTION

While it is true that some of the most densely peopled industrial tracts are grouped on and around the coal fields, we should not be misled into thinking that industrial development is confined to within a few miles of the mineheads. We have explained that it is usually cheaper to bring raw materials to the vicinity of coal than vice versa. But the whole of Northwestern Europe is not very extensive if compared with the outside world from which these raw materials flow to feed her factories. In this sense virtually all Northwestern Europe constitutes the "vicinity of the coal fields." This applies, however, more strictly to the regions that are provided by nature with con-

⁷ Edward Krehbiel, "Geographic Influences in British Elections," *Geog. Rev.*, Vol. II, 1916, p. 422.

venient avenues of communication by which supplies of coal, raw materials, and food may readily be brought to manufacturing populations and by which the manufactured wares of the latter may be shipped away. Accessibility thus compensates for relative remoteness from the sources of power.

But this brings us to a larger historical question, even, than that of the Industrial Revolution. The accessibility which many districts of Northwestern Europe have acquired through their nearness to river and sea routes was a powerful stimulus to commerce, to movements of people, to the spread of institutions, and to the exchange of ideas for centuries before the Industrial Revolution. Something must be said, therefore, of the historical significance of main waterways of Northwestern Europe.

The principal waterway of Northwestern Europe is the great sea route extending along the coast of the continental mass from the Bay of Biscay to the inner end of the Baltic Sea. Tributary to this route are rivers which flow northward and northwestward across the continental mass. With only a few exceptions the principal seaports of the continent stand on or near the mouths of the larger rivers: Bordeaux on the Garonne, Rouen on the Seine, Hamburg on the Elbe; Rotterdam and Antwerp, while not actually on the Rhine itself, are on lesser channels near that river's estuary. The river mouths provide the only deep, protected anchorages along the generally smooth, harborless coastlines that border the lowlands of Northwestern Europe. They are the logical points of transshipment to ocean-going vessels from light-draught river craft and from the landways that pass down the river valleys.

In the mid-thirteenth century, the Hansa, a great

confederation of commercial cities, was established. It is interesting to note the distribution of the towns which either belonged to this league or in which the league maintained trading stations. Most of these towns were seaports or river ports. They clustered along the coasts from Harfleur at the mouth of the Seine to Narva near the present Leningrad. River towns in the interior of Germany and Poland, such as Cologne, Magdeburg, Breslau, and Cracow, were members of the league. An important foreign station was maintained at Novgorod on the Volkhof in Russia, whence the furs of the northeastern forests were exported to western and southern Europe. Bruges and London were western outposts of the Hansa and owed some of their prosperity in the Middle Ages to the fact that here the raw materials of the Baltic regions were exchanged for the textiles and other manufactured goods of England, France, and the Low Countries, and even of Italy and the Orient.

Yet vigorous as was the commercial enterprise of these cities in the Middle Ages it was insignificant if compared with the growth that came after the discovery of America and the opening of the route to the Indies around the Cape of Good Hope. After all, in the Middle Ages Europe may be said to have faced east and southeast. The northern coasts were on the back side of the continent; upon the Atlantic beaches the waters of the ocean rolled in from the unknown. The most prosperous ports, the most cosmopolitan cities, were those of the Mediterranean basin. The Atlantic ports lay far from the world's main centers of wealth and enlightenment. After the discovery of America, however, the center of gravity of European commercial life shifts northwestward, a process enormously accelerated by the Industrial Revolution. When large terri-

tories of Northwestern Europe were transformed into manufacturing areas exchanging their products for the raw materials of the Western Hemisphere and of the Far East, many a quiet coast town or drowsy fishing village sprang into life; along many a mile of river-bank, rural but a century or so ago, warehouses and shipyards have sprung up, and docks have been built where ships gather from all corners of the earth.

A French geographer has well said that "the rivers prolong the great ocean routes into the interior of the land."⁸ Not only do the larger streams themselves provide waterways for the cheap and safe transport of freight in barges, but the river valleys offer natural avenues for the construction of canals, highroads, and railways. Hence regions that might otherwise have remained backward commercially and industrially as well as out of touch with the civilizing influences of the lowlands are linked to the outer world by the riverways. This is particularly striking in the case of certain of the massives of Northwestern Europe. The upper course of the Loire, for instance, offers access into the northeastern side of the Massif Central, where an important secondary manufacturing center of France has grown up around Clermont-Ferrand. The upper Elbe, which rises in the southern side of the Bohemian Massive, connects the industrial towns of Czechoslovakia with northern Germany and through the port of Hamburg, at the mouth of the river, with countries beyond the seas.

The course of the Rhine in relation to the Vosges-Black Forest and Ardennes-Rhine Massives is even more significant. Rising high among the Alpine snows, the Rhine passes westward through the lowland of

⁸ Jacques Levainville, "The Economic Function of the Rhine," *Geog. Rev.*, Vol. XIV, 1924, p. 242.

northern Switzerland. Thence, turning north, it follows the long rift valley the upper end of which cleaves the Vosges from the Black Forest, but before reaching the northern end of the rift the river turns aside to the northwest to penetrate the Ardennes-Rhine Massive in a deep gorge. Emerging from this gorge it flows out upon the north German plain and makes its way across Holland to the North Sea. The Rhine thus cuts directly through the very heart of a rough, highland tract that might otherwise have restricted commercial intercourse. Up the river iron ore, cereals, and coal from the Ruhr are shipped southward to Switzerland, Alsace, and southwestern Germany, and for the manufactures of these regions the river route provides an outlet through the great ports near its mouth: Antwerp, Rotterdam, and Amsterdam.

At certain critical points along this Rhine route important cities have sprung up. At the "elbow" where the river swings north into the rift valley stands Basel. West of this town a low gap, the Pass of Belfort, intervenes between the Vosges and the northern end of the Swiss Jura, an offshoot of the folded Alps enclosing Switzerland on the west. The Pass of Belfort provides an easy highway not only from the Saône and Rhone trench (and thereby from the Mediterranean) northward into the middle and lower valley of the Rhine and thence to northern Germany, but also from central and eastern France by way of the upper Rhine eastward into the Danube valley. North of the Pass of Belfort the first main route from France into southern Germany and the upper Danubian region runs north of the Vosges and Black Forest massives, crossing the Rhine at Strasbourg. Still farther north, near the point where the Rhine leaves the rift to enter its gorge, Frankfort lies on the Main near its junction

with the larger stream and Mayence stands on the west bank of the Rhine just below the mouth of the Main. At these two towns routes from central and northern Germany through the northern continuation of the rift valley meet the river. Frankfort is also connected with the upper Danube at Ratisbon by the Main valley. Cologne stands where the great river flows forth upon the north German plain from the highlands formed by the Ardennes-Rhine massive.

"The Rhine is a European and even a world problem. Free navigation on it is of importance not only to the riparian states but also to nations distant from its banks. The power of the Rhine is felt far beyond the geographical limits of its basin."⁹ At the close of the Napoleonic wars the principle of free navigation on the Rhine was recognized and this principle was confirmed in the Treaty of Versailles in 1919, which provides for an international commission "to regulate the international life of the river, justly composed not only of the representatives of the riparian states—the Netherlands, Germany, France, Switzerland—but also of representatives of more distant states whose interests at first thought seem less immediate—Belgium, Italy, Great Britain."¹⁰

GREAT CAPITALS

Modern times have seen the growth of certain immense cities in Northwestern Europe. In size and influence the great capitals, preëminently London, Paris, and Berlin, have come far to outdistance any of the urban centers that we have been discussing so far, with the exception of Rome. Rome, as conqueror,

⁹ Levainville, *op. cit.*, p. 243.

¹⁰ *Ibid.*, pp. 243-244.

created the empire of which she was the center, by imposing her institutions on the entire western world and her language upon the lands that border the western Mediterranean. No one of the modern capitals has, like Rome, been the core of an empire coterminous with Occidental civilization. Their influence has been felt only to a limited degree beyond the national frontiers of their respective states. Even within these frontiers the great capitals have not dominated national character and development to the degree that Rome dominated the character and development of the peoples of her empire. London, Paris, and Berlin are essentially the creations, not the creators, of modern Britain, France, and Germany.

London and Paris, however, became commercial and political towns of the first rank early in the Middle Ages. They both occupy advantageous positions at the crossing of trade routes. The Thames estuary forms a magnificent port, easy of defense against hostile navies. Communication with the interior lowland of England is more direct than from the Channel ports, which are cut off by lines of low hills. Furthermore, London lies almost directly on the seaway that follows the coast of the continental mass of Northwestern Europe.

Paris is near the center of the Paris Basin, or lowland of northern France. Connected with the sea by the deep lower course of the Seine, Paris is also a port for barges and vessels of shallow draft. The eastern tributaries of the Seine converge toward the city like spokes around the axle of a wheel, offering avenues northeastward to the Low Countries and German plain, eastward to southern Germany, and southward to the Rhone valley and Mediterranean. On the southwest

a low saddle between Paris and the Loire valley provides a highway toward the west and southwest.

These natural advantages of situation and site would probably have stimulated the growth of London and Paris even had they not become national capitals, but in the latter case it is doubtful if the immense increase in size that these cities have experienced in modern times would have ensued. The growth of the whole of Great Britain and of France has been reflected in the growth of their capitals in a way that has not been true of any other British or French centers. The superior position that they early acquired was confirmed by the emergence of England and France as strong, centralized nations at the close of the sixteenth century. But it is primarily the Industrial Revolution that has brought about the altogether exceptional growth of the last century.

In the case of Berlin, metropolitan development came much later. The reason lies partly in the late unification of Germany as a nationalistic state and partly in the late appearance of the Industrial Revolution in Germany. During the Middle Ages Berlin was smaller than many of the towns of western and southern Germany and not until the rise of Prussia did it appear as the capital of a powerful state. Berlin illustrates, more strikingly perhaps than London or Paris, the importance of the political factor in the evolution of a great capital. The commercial advantages of its position are not comparable with those of Paris and London. The city stands in the midst of a broad plain, well to the east and north of the principal commercial and industrial regions of Germany. While it is readily reached by roads and railways, it is not a seaport, nor even a river port, although canals connect it with the waterways of the north German plain. And

yet, as capital, Berlin has become the focus not only of the nation's governmental administration but of its business and finance. As a consequence it is now nearly four times as large as Hamburg, the second city of Germany. Berlin's sudden growth has come since 1870-1871, the years of the unification of Germany at the time of the Franco-German War. Only during the decades between the Franco-German War and the World War was the full force of the Industrial Revolution felt in Germany.

The reason why Washington, the political capital of the United States, has not also become the economic capital lies in the fact that Washington is an artificially created city, not a natural growth. The site of our capital was arbitrarily selected long after Baltimore, Philadelphia, New York, and Boston, were firmly established. For the growth of a metropolis the site of Washington offers many disadvantages and none of the advantages that the neighboring site of Baltimore does not possess in greater measure. Even as a political capital Washington is not to be compared with the European capitals, for our federal form of government has not promoted the same concentration of administrative functions that exists in the centralized states of Europe. During the nineteenth century New York, rather than Washington, became the economic capital of the United States.

The most striking fact about the great European capitals is their surpassing size. The squares in Figure 4 illustrate their population and recent growth in comparison with those of the largest cities of the second rank. Mere size leads to ever-increasing size; population attracts more population. The manufacturer builds his factories in the metropolis in order to make use of the abundance of available labor and to

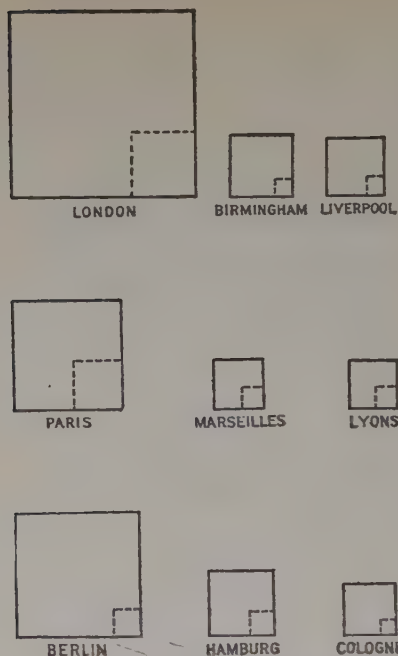


FIG. 4

Populations of the three largest cities in Great Britain, in France, and in Germany. The areas of the squares outlined in solid black lines are proportionate to the populations of the English cities as estimated for 1925, and of the French and German cities as determined by censuses of 1925 and 1926 respectively. In the case of London and Berlin the suburbs have been included. The areas enclosed by the dotted lines represent the population in 1800. Note that, whereas London and Paris far outranked the second and third largest cities of England and France in 1800, Berlin at that date was not very much larger than Hamburg. Population figures follow. London, 1800: 959,000; 1925: 7,742,212; Birmingham, 1800: 71,000; 1925: 945,000; Liverpool, 1800: 82,000; 1925: 856,000; Paris, 1800: 547,000; 1925: 2,871,429; Marseilles, 1800: 111,000; 1925: 652,196; Lyons, 1800: 110,000; 1925: 570,840; Berlin, 1800: 172,000; 1925: 4,013,588; Hamburg, 1800: 130,000; 1925: 1,079,092; Cologne, 1800: 50,000; 1925: 698,064. Figures for 1800 from Wl. Woytinsky, *Die Welt in Zahlen*, Berlin, 1925, pp. 132-133; for 1925 and 1926 from the *Statesman's Yearbook*, 1927, pp. 14-16, 855, 932.

be near the markets which the city affords. The merchant establishes his warehouses and shops there in the midst of a huge consuming population. Financiers maintain their central banks, brokerages, and stock exchanges in the capital where the volume of the nation's business is the mightiest. The more people engaged in political, administrative, industrial, and financial life, the more people there must be to serve them as petty storekeepers and clerks, in the professions, and in a host of other capacities.

A great capital spreads over many square miles and, hence, within its own limits forms a geographical unit of enormous complexity. European students have developed a wholly new branch of geography, which makes the city the subject of investigation. The results of some of their studies in urban geography are not merely of academic interest but are of great practical value. Most great cities grow in a haphazard manner. The original narrow crooked streets that developed more or less at random in the early days when the town was small cannot care for the immense traffic concentrated upon them. Overcrowding in slums and the presence of factories in the midst of densely peopled quarters menace health and happiness. To solve these and the allied social problems that a metropolis creates has been the aim of public-spirited citizens throughout Europe for more than a century. City planning, by which existing evils may be corrected and development made to follow more rational lines than in the past, must of necessity be based upon the analysis of existing conditions and this analysis the student of urban geography can provide. It is in the great capital that the urban geographer finds his most difficult and at the same time most fascinating field of study.

The historical and geographical significance of the great capital, however, does not lie exclusively in its superlative size and complexity of internal organization. It lies largely in the relation with the nation and empire of which the capital constitutes the nerve center. This relation is manifested in three ways: by tangible, physical links connecting the capital with the outside world; by the presence in the capital alone of certain material objects indispensable to the nation as a whole; and by the flow of certain intangible forces and influences back and forth between capital and nation.

By the tangible, physical links connecting the capital with the outside world we mean lines of communication. London, Paris, and Berlin are the nodal points of the main trunk roads, railways, telegraph and telephone systems of England, France, and Germany. If an enemy can seize these nodal points the entire delicate system of national communications suffers immediate paralysis. This is one reason why the defense of the great capitals is of such superlative importance. Indeed, the very accessibility that favors their growth in times of peace only renders more difficult the problem of their protection in times of war. This is particularly well illustrated in the case of Paris. The defensive campaigns of the French under Napoleon in 1814, during the Franco-German War of 1870-71, and again during the World War, were fought against armies whose main objective was Paris. In 1814 and 1871 the capture of Paris was equivalent to the defeat of France; the same doubtless would have been true in the World War had the Germans succeeded in taking the city. Between 1871 and 1914 the French general staff labored ceaselessly in perfecting plans for the defense of the eastern approaches to the capital

and in creating a mighty series of defensive positions (notably at Verdun) between Paris and the frontiers.

Of the material objects indispensable to the nation as a whole and located in the great capital it would be possible to draw up an extended list. Among the most important would be the governmental archives and collections of legal, military, and other administrative records, the destruction of which would cause infinite confusion throughout the entire state. Central universities, libraries and museums, the material bases of the nation's intellectual and artistic life, would also fall in this category. The great metropolitan newspapers, the stock exchanges, and the clearing houses which handle the nation's financial affairs cannot operate without complex mechanical equipments. Only in the great capitals have these equipments been built up on a scale adequate to serve nation-wide needs.

The intangible forces and influences that flow forth from the capital into the nation are the products of the human mind. These take the form of orders issued by administrative officials, war departments, or business executives from central offices in the metropolis to subordinates in provincial towns or remote corners of overseas empire. They take the form of laws passed by national legislatures meeting in the capital but representing the collective will of a large portion of the nation's population. They take the form of opinions cultivated by the editors of powerful metropolitan newspapers, of fashions in dress set by metropolitan tailors and dressmakers, or of songs, or plays, or operas, or novels, given the sanction of approval by metropolitan critics and public. As we have pointed out, the great capitals are fundamentally the creations of their nations. They have, however, themselves contributed so enormously to the forming of the national

character that it is almost impossible to conceive of the great nations themselves without their capitals. This is particularly true of France and England. France without Marseilles or England without Manchester would still be France and England. But France would not be France without Paris, England would not be England without London.

CONCLUSION

The great metropolis is the supreme expression of the intricacy and refinement of modern civilization. It is difficult to imagine a life more different from that of the desert rover, with whom we began our discussion of the European Area, than that of the city dweller of London, Paris, or Berlin, with whom we have concluded it. The nomad's dependence upon nature is direct. When drought sears his pastures and dries his wells he must migrate, or starve. His existence depends from day to day on his knowledge of the face of the wilderness and on his adaptability to its changing moods. The city dweller, however, is freed from the immediate menace of nature. To him as an individual, wind and rain, storm and drought, bring little more than a passing sense of comfort or discomfort.

Yet it would be a grave mistake to conclude that highly civilized man is any less under bondage to geographical circumstance than is the man who lives closer to the soil. If the relations between the growth of civilized societies and the geographical environment are more complicated, more difficult to discern and appraise, they are no less real. Enough has been said, we hope, to make it clear that most of the significant movements of European history, the growth of towns, the spread of types of civilization, the evolution of

commerce and industry, the conflict of nationalities, have at least some of their roots in geographical conditions.

Among students of human institutions there have long been two groups, those who lay more and those who lay less stress upon the power of environment in shaping man's destiny. It is well to beware of the extreme views of either: the over-ingenious theories, on the one hand, which attribute to the immediate influence and control of environment events that a closer examination shows to have been produced by a long chain of historical causation; the shallow theories, on the other, which overlook the fact that man like all the animals draws his sustenance from the air, water, and earth, and in his activity is often strictly limited by the terms that these impose. No formula, no generalization may be drawn up defining the relations between environment and man. If we wish to approach a clearer understanding of history, each problem must be analyzed on its own merits and in each case the claims of racial and cultural inheritance must be carefully weighed against those of the world of nature that envelops us.

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This and the following are two excellent textbooks prepared for students of university grade. Each opens with chapters on general geographical processes and conditions and on the world as a whole, followed by concise regional treatments.

- J. F. Unstead and E. G. R. Taylor, *General and Regional Geography for Students*, 10th edition, George Philip & Son, Ltd., London, 1927.

Hugh Robert Mill, editor, *The International Geography, by Seventy Authors, with 488 Illustrations*. D. Appleton & Co., New York, 1900.

A coöperative volume by seventy authors, each of whom has contributed a section relating to a country or group of countries. The contributions conform in general arrangement and treatment to a carefully thought-out plan. Although now old,

the *International Geography* is still useful if one wishes to obtain a rapid introductory view of the major geographical facts of any particular region. Alfred Hettner, *Grundzüge der Länderkunde*, Vol. I, *Europa*, 1st edition, 1907; 2nd edition, abridged, 1923; Vol. II, *Die aussereuropäischen Erdteile*, 1st and 2nd edition, 1924; 3d edition: Vol. I, 1925; Vol. II, 1926. B. G. Teubner, Leipzig and Berlin.

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INDEX

- Abyssinia, 16
 Adriatic Sea, coasts, 38, 39, 40,
 pl. I
 Ægean Sea, coasts, 33; islands,
 26; pl. I
 Africa, east coast, 17; North,
 mountains, 26; physiography,
 8
 Africo-Arabian Arid Region, 5,
 12-25; climate, 10; map, 6;
 physiography, 8
 Agriculture, Africo-Arabian
 Region, 12-13, 19; Alpine
 Mediterranean Region, 28-29,
 51; Northeastern Europe, 60;
 Northwestern Europe, 67-69,
 80
 Agricultural Revolution, 60-61
 Albanian language, map, 69
 Alexandretta, 38
 Alexandria, 18, 29, 37, 38, 43
 Alföld, 52
 Algeria, 8
 Algiers, 42
 Alicante, 42
 Alphabets, 20, 34, 49, 68
 Alpine-Mediterranean Region,
 5-8, 26-57; climate, 11; map,
 6; physiography, 9-10
 Alps, 26, 54, 55, 57, pl. I
 America, discovery, 18, 83
 Amsterdam, 85, pl. I
 Andalusia, 34, 51, pl. I
 Andorra, 55
Andrees allgemeiner Handatlas,
 map, 69, 100
 Antwerp, 82, 85, pl. I
 Apennines, 26, pl. I
 Apples, 68
 Arabia, 12, 13, 14; physiogra-
 phy, 8; southern, 17
 Aragon, 34, pl. I
 Architecture, 34, 44, 49
 Ardennes-Rhine Massive, 65,
 81, 84, pl. I
 Armorican Massive, 65, pl. I
 Arno valley, 35
 Asia, central, 16; *see also*
 Africo-Arabian Region
 Asia Minor, coasts, 37; interior,
 50-51; mountains, 27
 Astrakhan, 64
 Athens, 31, 34
 Atlantic Ocean, 33
 Atlantic ports, 83
 Atlas Mountains, 15, 26, pl. I
 Atlases, 100
 Austria, 41, 72
 Austrians, 71
 Babylon, 29
 Bagdad, 29; map, 23
 Balearic Isles, 26, pl. I
 Balkan Peninsula, 24, 25, 49-50,
 78, 99
 Balkan Range, 26, pl. I
 Baltic languages, map, 69
 Baltic Sea, east coast, 61, pl. I
 Barcelona, 42, 43
 Basel, 85, pl. I
 Basque language, map, 69
 Basra, 29
 Bavaria, 72
 Bavarians, 71
 Bedouins, 21
 Beirut, 38
 Belfort, Pass of, 85
 Belgium, 72, 100

- Berlin, 86, 88, 90, pl. I
 Betic Cordillera, 26, pl. I
 Bibliography, 97-100
 Bihar Massive, 52, pl. I
 Birmingham, 90
 Black Earth Belt, 60
 Black Sea, 58-59, pl. I; coasts, 37, 39
 Blanchard, Raoul, 99
 Blocks of earth's crust, 9
 Bohemian Massive, 65, 84, pl. I
 Bordeaux, 82
 Bosphorus, 47
 Boundaries, cultural, 49; physiographic, 8-9; *see also* Frontiers
 Bowman, Isaiah, 23, 98
 Breasted, J. H., 20 note
 Brenner Pass, 39, 40, pl. I
 Breslau, 83
 Breton language, map, 69
 Brindisi, 42
 Britain, *see* Great Britain
 British Empire, 19, 77
 British Isles, 100; *see also* Great Britain
 Bruges, 83
 Buda, 52
 Budapest, 52, pl. I
 Bulgarian language, 50; map, 69
 Byzantine civilization, 49, 50, 61
 Byzantium, 47-48
 Cairo, map, 23
 Campagna, 45
 Cape of Good Hope, sea route around, 17
 Capitals, great, 86-94
 Carpathians, 26, 52, 55
 Castile, 51
 Castile, New, 51, pl. I
 Castile, Old, 51, pl. I
 Catalan language, map, 69
 Catherine II, 60
 Caucasus Mountains, 10, 26
 Celtic languages, 70; map, 69
 Charles the Hammer, 24
 China, 5, 17
 Christianity, 21
 Cities, 29-50, 78-79, 85-86; great capitals, 86-94
 Citrus fruits, 28
 City (or urban) geography, 91
 City planning, 91
 City states, 34-36
 Clermont-Ferrand, 84
 Climates, Africo-Arabian Region, 12-13; Alpine-Mediterranean Region, 27-28; Asia Minor, 50-51; European Area as a whole, 8-11; Hungarian Lowland, 50; Northeastern Europe, 58-59; Northwestern Europe, 67; Spain, 57
 Coal, 78-81
 Coal fields, 81
 Coasts, commercial importance, 37-42, 82-84
 Cologne, 83, 86, 90, pl. I
 Colonial expansion, 77
 Commerce, Mediterranean, 33-34, 37-43; Northwestern Europe, 81-86; Oriental, 17-19
 Constantine, Emperor, 21, 48
 Constantinople, 19; cultural influence, 49-50, 61; map, 23, pl. I; situation, 46-49
 Constanza, 43
 Continental climate, 5, 11
 Corinth, 31
 Cornish-Devonian Massive, 66, pl. I
 Courland, 62
 Cracow, 83
 Crimea, 39, 58
 Croatians, 50 note
 Cvijić, Jovan, 99
 Czech language, map, 69
 Czechoslovakia, 53
 Dacia, 53
 Dairies, 68
 Dalmatian coast, 38, 41, pl. I

- Damascus, 29
 Danish language, map, 69
 Danube, 52, pl. I
 Dardanelles, 48
 Defense of cities, 31-32; 92-93
 Demangeon, Albert, 100
 Depressions, Three Great, 13-21; map, 6
 Desert climate, 5
 Deserts, 12-13, 15-16
 Dinaric ranges, 38, 54, pl. I
 Dnieper, 63, pl. I
 Dniester, 64, pl. I
 Don, 64
 Drainage of fields, 68
 Dutch language, 71; map, 69
 Dvina, 64, pl. I

 Egypt, 14, 16, 22, 38
 Elbe, 82, 84, pl. I
 Elections, 80-81
 England, 94; agricultural, 80; industrial, 80; *see also* Great Britain, British Isles
 English language, 70-71; map, 69
 English plain, 66, 80, pl. I
 Environment, geographical, 95
 Esthonia, 62
 Esthonian language, map, 69
 Etruscan alphabet, 34
 Etruscan architecture, 34
 Euphrates, 14
 Euphrates valley, 21
 Europe, 4; Central, 99; *see also* Northeastern Europe, Northwestern Europe
 European Area, 5-11

 Far East, 5, 18
 Finland, 9, 62
 Finnish language, map, 69
 Finns, 62
 Fish, 68
 Fiume, 41, pl. I
 Flemish language, 71; map, 69
 Florence, 35

 Forests, 59-60, 67-68
 France, 70, 94, 99; cities, 41, 82, 84, 86-88, 90; physiography, 65
 Franco-German War, 1870-71, 92
 Frankfort, 85, pl. I
 French language, 70; map, 69
 Frontiers, cultural, 61; national and political, 72-74; *see also* Boundaries

 Gaelic languages, map, 69
 Galician language, map, 69
 Gallipoli, 48
 Genoa, 40, 41, pl. I
 Geography, definition, 3
 German colonies, east Baltic region, 62
 German language, 71; map, 69
 Germans, 71
 Germany, 19; cities, 79, 82-83, 88-90
 Gibraltar, Straits of, 40
 Granada, 57; map, 23
 Grapevine, 68
 Great Britain, cities, 79, 86-87, 90; coal fields, 80; physiography, 65-66; *see also* British Isles, England
 Greek alphabet, 20, 34; map, 69
 Greek art, 20
 Greek city states, 35
 Greek colonies, 34
 Greek language, map, 69
 Greek Orthodox Church, 49; map, 69
 Greek science, 20, 25
 Greeks, 7, 20, 34-35
 Gulf Stream, 11

 Hamburg, 82, 89, 90, pl. I
 Handicraftsmen, 78
 Hansa, 82-83
 Harfleur, 83
 Herbertson, A. J., 97
 Hettner, Alfred, 98, 99, pl. I

- Hill towns, 31-32
 History, definition, 3
 Hogarth, D. G., 98
 Holland, 100; *see also* Low Countries
 Holy Roman Empire, 72
 Homer, 34
 Horse Latitudes, 10
 Hungarian language, map, 69
 Hungarian Lowland, 52, pl. I
 Hungarians, 53
 Hungary, 52
 Huns, 32
- Iberian Massive, 51, pl. I
 Icelandic language, map, 69
 Iliad, 34
 India, 5, 17, 19
 Indian Ocean, 17
 Indo-European languages, 70; map, 69
 Industrial Revolution, 74-86
 Irish language, map, 69
 Iron Gate, 52, pl. I
 Irrigation, 19
 Iskanderun, 38
 Islam, 21-25
 Islands as town sites, 32
 Italian city states, 35
 Italian language, map, 69
 Italy, 45; cities, 32, 35, 39-45
- Jefferson, Mark, 77 note
 Jerusalem, 29
 Judaism, 21
 Jura, Swiss, 85, pl. I
- Kama, 64
 Kazan, 64
 Kief, 63
 Kostroma, 64
 Krehbiel, Edward, 81 note
 Kuseir, 18
- Landscape changed by Industrial Revolution, 74-76
 Langhans, Paul, map, 69
- Languages, 68-72; map, 69; *see also* names of individual languages
 Laodicea, 38
 Lapp language, map, 69
 Latakia, 38
 Latin alphabet, 20, 34; map, 69
 Latin language, 70; *see also* Romance languages
 Latvia, 62
 Leghorn, 42, 43
 Leo the Isaurian, 24
 Leon, kings of, 51
 Lettish language, map, 69
 Letts, 62
 Levainville, Jacques, 84 note
 Ligurian Sea, coast, 41
 Lines of communication, 81-86; *see also* Commerce, Trade routes
 Linguistic regions, map, 69; *see also* Languages
 Lions, Gulf of, pl. I; coast, 41
 Lithuanian language, map, 69
 Lithuanians, 62
 Liverpool, 90, pl. I
 Livonia, 62
 Lobeck, A. K., 101, pl. I
 Loire, 84, pl. I
 London, 31, 83, 86-90, 94, pl. I
 Low Countries, 83, 87
 Lowlands, Africo-Arabian Region, 22; Alpine-Mediterranean Region, 51-52; North-western Europe, 66
 Lowlands of Scotland, 66, pl. I
 Lyons, 90
- Mackinder, H. J., 100
 Madrid, 51, pl. I
 Magdeburg, 83
 Magyar language, map, 69
 Magyars, 53
 Maize, 68
 Malaga, 42
 Marseilles, 41-42, 43, 90, pl. I
 Martonne, Em. de, 100

- Massif Central, 65, 84, pl. I
 Massives, 9, 65-66, 84
 Mayence, 86
 Mecca, 29; map, 23
 Medina, 29
 Mediterranean climate, 5, 27-28
 Mediterranean peasant, 29
 Mediterranean ports, 37-43
 Mediterranean Region, 98; *see also* Alpine-Mediterranean Region
 Mediterranean Sea, 16, 24; commerce, 33-37; origin, 10
 Megara, 31
 Memphis, 29
 Meseta, Iberian, 51
 Mesopotamia, 14, 19, 22
 Mesopotamian-Persian Gulf depression, 19; map, 6
 Milan, 36
 Mill, H. R., 97
 Mohammed, 22
 Mohammedan science, 25
 Mohammedan World, 23-25; map, 23
 Mohammedanism, 21-25
 Monasteries, 67
 Monotheism, 21
 Mountain-building movements, 10
 Mountaineers, 55
 Mountains, 9, 10, 26, 53-57
 Morocco, 8
 Moscow, 60
 Mussolini, Benito, 46
 Myriandrus, 38

 Naples, 42
 Napoleon, 59, 92
 Narva, 83
 Nation, 72
 National frontiers, 73
 Nationalism, 72-73
 Near East, 4, 7, 98
 Neva, 63, 64
 Newbiggin, M. I., 98, 99
 New York, 31, 89

 Nijni Novgorod, 64
 Nile, 15, 18
 Nile flood, 15
 Nile valley, 14, 16, 19, 21; map, 6
 Nomads, 13, 22-23
 North Atlantic Drift, 11
 Northeastern Europe, 5-8, 56-64; climate, 10-11; map, 6; physiography, 8
 Northern Massive, 66, pl. I
 Northwestern Europe, 5-8, 64-94; climate, 10-11; map, 6; physiography, 8-9
 Norwegian language, map, 69
 Novgorod, 83

 Oases, 12
 Oats, 68
 Occidental culture, area of, 4
 Oceanic climate, 7, 11
 Odessa, 39, 43
 Odyssey, 34
 Oka, 64
 Olives, 28
 Oran, 42
 Oriental trade, 17-19
 Orvieto, 32
 Ottoman Turks, 47; *see also* Turks

 Palestine, 14
 Papacy, 44, 46
 Paris, 86-90, 92, pl. I
 Paris Basin, 87, pl. I
 Parliament, British, 80
 Parma, 36
 Partsch, Joseph, 99
 Pasturage, 13, 56
 Pechora, 64
 Pennine arch, 66
 Persia, 15
 Persian Gulf, 14
 Persian Gulf-Mesopotamian trade route, 18
 Pest, 52; Budapest, pl. I

- Peter the Great, 62, 64
 Philippson, Alfred, 98
 Phœnician alphabet, 20
 Phœnician cities, 38
 Phœnicians, 20, 34
 Physiography, Africo-Arabian Region, 12; Alpine-Mediterranean Region, 26-27; Europe, map, pl. I; European Area, 5, 8-10; Northeastern Europe, 58; Northwestern Europe, 64-66
 Piacenza, 36
 Piedmont, 56
 Pirates, 24, 31-32
 Pisa, 35
 Po valley, 34, 39, pl. I
 Poland, 9, 62, pl. I
 Poles, 61
 Polish language, 61; map, 69
 Political frontiers, 73
 Popes, 44, 46
 Ports, 36-43, 82-84
 Portugal, 51
 Portuguese explorers, 17
 Portuguese language, map, 69
 Protestantism, 62; map, 69
 Prevailing Westerlies, 10
 Prussia, 72
 Prussians, 71
 Pyrenees, 10, 26, 54, 55

 Rambaud, Alfred, 63
 Ratisbon, 86
 Ratzel, Friedrich, 21
 Ravenna, 39-40
 Red Sea, 14, 17; rift valley, 14; trade route, 17-18; map, 6
 Religious boundary, 49; map, 69
 Religions, 21, 44, 46, 61; map, 69
 Rhine, 82, 84-86, pl. I
 Rhine gorge, 85
 Rhone, pl. I; valley, 41-42, 70, 85
 Riff, Morocco, 26, 56, pl. I
 Riffians, 56
 Rift valleys, 14; Red Sea, 14; map 6; Rhine, 65, 85, pl. I; Scottish Lowlands, 66, pl. I
 Rivers, Mesopotamia, 14; Northwestern Europe, 82, 84; Russia, 62; *see also* names of individual rivers
 River mouths, ports near, 42, 82
 Riviera, 37, 41
 Roman architecture, 34
 Roman Catholicism, 44, 46, 62; map, 69
 Roman Empire, 7, 44-46, 53
 Roman law, 44
 Roman provincial organization, 35
 Romance languages, 68, 70; map, 69
 Rome, 31, 44-46, 86-87, pl. I; *see also* Roman Empire
 Rotterdam, 82, 85
 Rouen, 82
 Ruhr, 81
 Rumania, 53, 56
 Rumanian language, map, 69
 Rumanians, 50
 Russia, 9, 24, 25, 58-64, 99
 Russian farmers, 60
 Russian language, 61; map, 69

 Sahara, 12; trade routes, 16
 Salonica, 42
 Samara, 64
 Savoy, Counts of, 56
 Scandinavia, 9, 66
 Scandinavian languages, 71; map, 69
 Scotland, 9, 66
 Scottish Highlands, 66, pl. I
 Scottish Lowlands, 66, pl. I
 Scottish Massive, 66
 Seaports, *see* Ports
 Seasons, 11
 Sedimentary beds, 9
 Seine, 82, 87, pl. I
 Seleucia, 38
 Semple, E. C., 31 note

- Serbian language, 50
- Serbo-Croat language, 50 note;
map, 69
- Shepherd, W. R., 23, 100
- Siberia, 5, 61
- Sicily, 24, 26, pl. I
- Sidon, 38
- Siena, 35
- ✓ Sierra Guadarrama, 51, pl. I
- ✓ Sierra Morena, 51, pl. I
- Site of cities, 30
- Situation of cities, 30
- Slavic languages, 61, 71; map,
69
- Slovak language, map, 69
- Slovene language, map, 69
- Smith, J. R., 21 note
- Smyrna, 42
- Southern Upland, Scotland, 66,
pl. I
- Spain, 24, 51
- Spanish language, map, 69
- Sparta, 34
- Statesman's Yearbook*, 90
- Steppes, Russia, 59-61
- Strasbourg, 85, pl. I
- Sudan, 16; map, 6
- Suez, Gulf of, 14, 18
- Suez Canal, 18
- Sweden, 68
- Swedes, 62
- Swedish language, map, 69
- Swiss Confederation, 55, 72
- Switzerland, 55, 72
- Syria, 14, 22
- Tagus, 32, pl. I
- Tangier, 42
- Tatars, 60
- Taurus Mountains, 26
- Taylor, E. G. R., 97
- Teutonic languages, 70; map,
69
- Thames, 87
- Thebes, 35
- Tiber, pl. I
- Tiber valley, 45
- Tides, 43
- Tigris, 14
- Tigris valley, 21
- Tisza, 52, pl. I
- Todd, Millicent, 99
- Toledo, 32
- Trade, 77
- Trade Routes, 16; *see also* Com-
merce
- Trade Wind Zone, 10
- Translations from the Arabic,
25
- Transylvania, 52
- Transylvanian Alps, 56, pl. I
- Trapezus, 38
- Trebizond, 38
- Trieste, 40, pl. I
- Tuscany, 36
- Tunis, city, 42; region, 8
- Turkish language, map, 69
- Turks, 25, 47, 60
- Tyre, 32, 38
- Udine, 36
- Ulster, pl. I
- Urban geography, 91
- Urban growth, 29; *see also*
Cities
- Unstead, J. F., 97
- Varangians, 63
- Vidal de la Blache, Paul, 99
- Vienna, 52, pl. I
- Vegetation, Africo-Arabian Re-
gion, 12; Mediterranean, 28-
29; Northeastern Europe, 59-
61; Northwestern Europe, 67
- Venice, 32, 36, 40, 42, 43
- Vicenza, 36
- Volga, 63, 64
- Volkhof, 63
- Volterra, 36
- Vosges-Black Forest Massive,
65, 84, pl. I
- Wales, 66
- War, 74

Washington, D. C., 89

Waterpower, 56, 79

Welsh language, map, 69

Welsh Massive, 66, pl. I

Wheat, 68


World War, 19, 24, 48, 77, 81

Woytinsky, Wl., 90

Xenophon, 39

Yugoslavia, 41, 53



 **W9-AUG-764**